DOCUMENT RESUME

ED 334 908 HE 024 740

AUTHOR Gellert, Claudius; And Others
TITLE Alternatives to Universities.
INSTITUTION Organisation for Economic Cooperation and Development, Paris (France).
REPORT NO ISBN-92-64-13530-8
PUB DATE 91
NOTE 87p.
AVAILABLE FROM OECD Publications and Information Centre, 2001 L Street, N.W., Suite 700, Washington, DC 20036-4910 ($22.00).
PUB TYPE Reports - General (140) -- Information Analyses (070)

EDRS PRICE MF01 Plus Postage. PC Not Available from EDRS.
DESCRIPTORS Comparative Analysis; Curriculum; *Curriculum Design; Educational Finance; *Enrollment Trends; Foreign Countries; *Higher Education; *Job Placement; *Nontraditional Education; Policy Formation; Postsecondary Education; *Student Characteristics
IDENTIFIERS Austria; Canada; France; Germany; Japan; Netherlands; New Zealand; Norway; United Kingdom; United States

ABSTRACT

This report charts the recent development of the non-university sector of higher education in some OECD (Organisation for Economic Cooperation and Development) countries. It shows that during the 1980s this sector most often succeeded in enhancing its standing and recognition among students, employers, and the academic world alike. Its progress in the 1990s will depend on how it meets the challenge of greater competition from the universities on the one side, and the growing postsecondary "third" sector--market oriented and often private--on the other. The countries surveyed are: Austria, Canada, France, Germany, Japan, the Netherlands, New Zealand, Norway, the United Kingdom, and the United States. Part 1 of this volume reviews and discusses recent trends and developments in the non-university sector, its main current features and the reasons behind its success under prevailing socio-economic conditions. Part 2 gives a substantial summary of the findings and conclusions of the general report and draws their implications for policy. Contains a 45-item bibliography. (GLR)

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Publié en français sous le titre :

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FOREWORD

The period since the 1970s has been one of very rapid growth and radical transformation of higher education systems in most OECD countries. Under the combined pressure of economic need and social demand, admission to tertiary levels of education and training lost its restrictive, elite mode, giving way to varied patterns of mass higher education. Expansion and diversification were achieved by widening access to a much larger number of universities and by developing new types of post-secondary institutions with different missions and profiles.

Part One of this volume reviews and discusses recent trends and developments in the non-university sector, its main current features and the reasons behind its success under prevailing socio-economic conditions. It draws heavily on a series of country case studies prepared specifically for this analysis undertaken for the OECD Education Committee. It was prepared by Claudius Gellert, Munich University and European University Institute, Florence, with the assistance of John Pratt, Polytechnic of East London, working closely with Dorotea Furth in the Secretariat. Part Two, prepared by the Secretariat, gives a substantial summary of the findings and conclusions of the general report and draws their implications for policy.

The two reports were reviewed on 30 May 1989 by the Education Committee which recommended that they be made public. This volume is published on the responsibility of the Secretary-General of the OECD.

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INTRODUCTION

The challenges confronted by non-university institutions during the 1960s and early 1970s were discussed in a previous OECD report, *Short Cycle Higher Education, A Search for Identity* (1973). As of the mid-1970s, the general context within which these institutions operate has undergone significant changes. Major structural changes were accompanied by reforms in public policies, in enterprises' initiatives and strategies as well as in individuals' demands and attitudes. The present report is an attempt to review the development of these "alternatives" to universities in the light of these changes.

Over the past 15 years, in most of the countries covered by the survey, the original concept behind the setting up of "non-university" occupationally-oriented institutions has been generally validated. The uncertainties which existed in the early years and problems related to "academic drift", i.e. the tendency to follow the academic paradigms of the university sector, have given way to a more confident acceptance of the specific tasks and responsibilities of this sector of higher education. In fact, in many cases the position of these institutions seems now to be much stronger than what had been expected. In some respects, the non-university sector seems to be better equipped than many of the traditional universities to respond to changing demands, particularly those arising from structural changes in employment and the rapid spread of new technologies. Its relationship with the university sector, however, still poses problems, particularly in terms of status differences. Other problems are also emerging due to the competition of a growing "third sector" at the post-secondary level, comprising a variety of training institutions and schemes, most often private, with a strong market orientation and closer to the world of business and industry.

Part One

REVIEW OF MAIN DEVELOPMENTS

by

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(with the assistance of John Pratt,
Polytechnic of East London)

1. GROWTH AND DIFFERENTIATION OF HIGHER EDUCATION

The Expansion of Systems of Higher Education

During the last quarter of a century, hardly any other sector within the Western industrial societies has experienced such a comprehensive and rapid expansion as tertiary education. In many countries the number of students quadrupled over that period. Staff in universities and other institutions of higher education, as well as government funds for teaching and research, increased at a similar rate. Traditional academic disciplines flourished and many new disciplines or sub-disciplines emerged. Outdated structures of institutional authority and government were substituted by more democratic and transparent decision-making procedures. Above all, admission to tertiary levels of education and training in most national systems changed from a restrictive elite mode to varied patterns of mass higher education.

This expansion of higher education occurred both through the extension of the existing university sector (partly by founding new universities) and through the development of alternative educational structures. As a consequence of this institutional differentiation, which was a general characteristic not only of the European systems, but also of those in the United States, Canada, Japan, New Zealand and other OECD countries (cf. e.g. Reisman, 1981; Clark, 1987*b*) there emerged in most systems more practically- and vocationally-oriented forms of higher education than the universities. Thus, for instance, in the United States and Canada the community colleges, in Great Britain the polytechnics, or in the Federal Republic of Germany (Western Germany before the unification) the *Fachhochschulen* began to constitute a major counterweight to the traditional universities. It is this realm of higher education, (i.e. training beyond secondary schooling), insofar as it happens outside the traditional framework of universities, which is the focus of this study on "Alternatives to Universities".

Various types of institution emerged in this alternative sector in the different countries. An OECD study (1973) identified three kinds of models of what were then called "short-cycle" and/or non-university institutions. The first was the "multipurpose" model which corresponded to the characteristics of most community colleges of North America, offering vocational courses and qualifications as well as the first two years of the four-year university first degree (undergraduate) programmes and, increasingly, a wide range of continuing education. The second was the "specialised" model which referred to those institutions that offered shorter, mostly vocationally-oriented courses in a limited number of areas, leading to below-first-degree-level qualifications. A large number of post-secondary institutions in Continental Europe were close to this model. The third was the "binary" model, typically represented by the British polytechnics, offering courses and qualifications intended to be distinct from, but of a comparable level to, those in universities.

These three models implied certain status assumptions of the time, in particular that universities were at the top of the institutional hierarchy. The OECD study spoke in this

context of a gap between "noble" and "less noble" institutions. Although the latter were fully integrated into the higher education system, they clearly suffered from a lack of status and prestige. Consequently, a common strategy they adopted was to orient most of their activities in ways that brought them closer to the university image. Recruitment and promotion procedures, particularly in the rapidly-growing public sector, implying a relatively low recognition of non-university sector degrees, represented a strong incentive for institutions to develop this "academic drift", thus endangering the intended development of functional differentiation.

Economic Development and Institutional Differentiation

This strong expansion and multiple differentiation was made possible by sound and flourishing economies. During the 1960s and early 1970s, most Western industrial societies developed at a steady pace, with exceptionally high rates of economic growth and simultaneous improvement of their overall standard of living. Rates of inflation and unemployment remained at a comfortably low level. Permanently growing gross national products, trade surpluses and other positive aspects of the economy enabled national governments to support the tertiary education sector's rapid growth. Under such circumstances, early calls by educationalists, representatives from industry, and politicians for a considerable expansion of educational opportunities at all levels were rapidly translated into national educational policies, enabling increasing proportions of the population to participate in higher education.

The arguments underlying these initiatives rested on two main political considerations. The first, so-called "manpower approach", was based on the conviction of employers and policy-makers that the national output of highly-qualified manpower had to grow if the respective countries were to compete successfully on the world market in times of rapidly changing technologies. The second consideration related to overall educational and social aims and was thus described as the "social demand approach". Its supporters maintained that, by being highly selective, the traditional education systems primarily served small societal elites, and that large proportions of gifted young people never got a chance to develop their talents. Post-compulsory education, in other words, was regarded as a general civil right.

As a consequence, public authorities introduced a series of measures to extend compulsory education and develop a wider range of programmes at secondary and post-secondary levels, designed to meet the needs and aspirations of new groups and to draw on the "pool of educational talent". They introduced or improved comprehensive systems of means-tested grants for pupils and students. At the higher education level, resources were deployed to develop a more diversified institutional framework, and to reduce the homogeneity of the system resulting from the dominant role of the university sector.

This process of differentiation, which is still continuing, is possibly the biggest change in higher education since the development of the research function in universities following Humboldt's reforms in Germany in the 19th century. In some countries, first-tier programmes offering students "short-cycle" diplomas were set within conventional universities (internal differentiation, comprehensive universities). The majority of countries, however, opted for the development of institutions outside the traditional university sector. In some cases, this entailed the rapid expansion of an existing post-secondary, non-university sector and/or upgrading of institutions from secondary to post-secondary level. In others, it meant setting up new types of higher education institutions.

These non-university institutions (referred to here as NUIs) were assigned distinctive aims and purposes; in particular they were designed to be more practically and vocationally oriented, thus fulfilling specific needs of the economy not adequately met by universities; they were also meant to offer educational opportunities to formerly disadvantaged social groups, thus promoting equality goals and the democratisation of education systems; finally, in some countries they were expected to be less expensive than traditional universities, thus responding to the desire of national governments to expand their systems of advanced learning at an acceptable cost.

In providing a more practically- and vocationally-oriented training, institutions were to take technological, economic and societal problems and needs more directly into account and organise the curriculum according to such expectations. Although the courses to be offered by this non-university sector (NUS) were still to be based on scientific and scholarly knowledge, and elements of general (or liberal) education were to be retained in most models of the NUS, the students in the NUS, in contrast to the university sector, would not be primarily engaged in broad and fundamental theorising, but were supposed to acquire their vocational skills and abilities through programmes and courses which related directly to occupational practice. As a good example of these aims and purposes, one of the community colleges in Canada formulated its mission in the following way:

> "We envision North Island College to be a 'community-based' college providing traditional clientele with traditional and non-traditional services through non-traditional delivery systems. This community-based college will analyse the needs of the North Island communities, will join forces with other agencies in meeting those needs, will re-evaluate programming priorities, will take the college to the community, will re-direct resources, and will set the pace for a new and expanded community college thrust into human services providing lifelong learning opportunities to adults..." (OECD country study, Canada).

The common denominator of these institutions was that they were meant to provide alternative educational opportunities to universities for students, offering qualifications that enable them to improve their position in the labour market over qualified school-leavers and — increasingly — to compete with university graduates. The objectives were ambitious and, at first, in a situation of full employment and the dominance of academic values, the fate of non-university institutions was perceived with scepticism. But the situation has changed. Many of the social, political and economic pressures which underlay the early developments have heightened and they have been augmented by others, thus reinforcing the trend to expansion and differentiation of higher education. Disappointment with the structural and functional inertia displayed by the universities was one significant reason for the original changes. More important, and perhaps a cause of that disillusionment, has been the continuing demand for higher education and the increasingly rapid economic and technological changes experienced by Member countries, leading to calls for higher education more relevant to economic needs. In many countries, too, differentiation of higher education reflects social goals, particularly a concern to equalise life chances through a more open and democratic higher education system.

The Emergence of a "Third Sector" at Post-secondary Level

One of the most fundamental changes at the post-secondary level in recent years is so far only little visible in some countries, but has already produced clear results in others. This is

the emergence, in addition to the formally recognised "alternative" sectors, of a further "third sector". This consists of diverse groups of programmes which are predominantly privately organised and financed, which are often of short duration and narrowly vocational, offered by private institutions and industrial firms. Many of these institutions charge substantial tuition fees. In some countries, these developments have been encouraged and supported by public authorities under the umbrella of different ministries. Whilst some of the third-sector institutions were set up for retraining or continuing educational purposes (not the subject of this study), there is growing evidence that they are now beginning to cater for a substantial number of qualified secondary school-leavers. This market-oriented sector is not widely visible to the public in most countries and often not sufficiently recognised by politicians or educational planners. Given these characteristics, information about the size, nature and functions of this sector is limited.

The Present Situation and Prospects of the NUS

By the beginning of the 1970s, most Member countries had established or actively developed NUIs. At that time, the OECD undertook a special study on the problems and dilemmas confronting these institutions. The title itself, *Short-Cycle Higher Education: A Search for Identity* (1973), highlighted one of the underlying key issues. As stated in the report: "While the incorporation of short-cycle [or non-university] institutions is progressively taking place, the very powerful and traditional norms of the universities make it difficult, if not impossible, for the new members to acquire sufficient prestige and parity of esteem without following these norms and thereby rejecting their own specific functions" p. 39). Academic drift was indeed one of the main obstacles to diversification at the higher educational level.

Fifteen years later, however, NUIs have acquired recognition and legitimacy within national systems of higher education. In fact, in many cases they seem to have a stronger position than what was expected in the early 1970s. Yet the role they play at present, their achievements and deficiencies are not always clear and well known. This applies to the many variations among countries as well as within the expanded and differentiated non-university sector itself.

Most of the major problems which systems of higher education, including the NUIs, are facing at present can be related to the severe economic stagnation, even recession, which many Member countries have experienced since the late 1970s. As a consequence, most governments began to reduce their budgets, and higher education in particular became a prominent victim. A substantial slowdown of growth in higher education took place, and in cases where systems of open access continued to expand in terms of student numbers, the financial means for additional personnel were frozen. In many instances, capital expenditure suffered drastic cuts and higher education became a steady-state affair. Some national systems have even been forced to shrink. Following such pressures and financial limitations, all sectors of higher education are attempting to match their output to market demands and are looking for programmatic, organisational and financial solutions to these actual or foreseen threats.

In several respects the non-university sector seems to be better equipped than traditional universities to cope with the present situation. In fact, there are indications that in most national systems the NUS is not only surviving fairly well, but is in some respects even benefitting from the dilemmas facing higher education overall. It may well be the case that

some of the original reasons for bringing this sector into being are proving to be even more relevant and acquire greater weight now than when they were originally formulated. Indeed, with greater emphasis on employment relevance and the declining influence of the traditional academic paradigms, these institutions seem to have become more attractive to both students and employers. Industry and other employers are increasingly looking for higher education graduates with practical skills and a vocational orientation. This, together with structural changes within national economies due to rapid technological change, seems to strengthen the position of the NUS.

In this situation, it is important to determine the different advantages and shortcomings Member countries are experiencing with their non-university sectors. This report was prepared as a basis for raising relevant policy questions and formulating conclusions about the future shape and development of the NUS in a comparative perspective. It investigates the current situation of the non-university sector in Member countries, assessing whether it has found a niche or identity of its own, clarifying the nature of this, and the underlying causes and rationales for these developments. It looks at the debate on its future development in the context of overall changes at the post-secondary level and its relation to society at large. Insofar as possible it considers the development of the "third sector" as a route for post-school education of school-leavers and adults.

The report is based on ten studies undertaken in the following Member countries: Austria, Canada, France, Western Germany (the Federal Republic of Germany before the unification of Germany), Japan, New Zealand, the Netherlands, Norway, the United Kingdom and the United States of America.

2. THE NUS IN THE CONTEXT OF THE OVERALL DEVELOPMENT OF HIGHER EDUCATION: A QUANTITATIVE PERSPECTIVE

Patterns of Overall Growth

In most Member countries the number of students in tertiary institutions increased rapidly during the last two or three decades. The figures from the OECD Educational Data Bank show that the general pattern within the OECD region has been one of very rapid expansion up to the early 1970s, giving way to a period of slower growth, sometimes stagnation in the late 1970s, with a general upsurge, but with more varying trends in the 1980s (Tables 1.A and B). There are, however, important variations from country to country, also in terms of the contribution of the non-university sector to the overall expansion of post-secondary education within each national context (Tables 2 and 3).

When comparing the size and structure of higher education systems, it is important to distinguish between two groups of countries. Those, mostly European, where the proportion of those leaving secondary school with suitable entry qualifications is small, though the percentage of these transferring to higher education may be high; and those such as the United States, Canada and Japan, where high percentages complete secondary school with entry qualifications, though a smaller percentage of this group than in European countries may transfer to higher education. It should be pointed out, however, that in a growing number of European countries, the traditional relationship between secondary and higher education is loosening up with the development of greater opportunities for young secondary school-leavers from vocational streams and incentives aimed at favouring the entry of adults and candidates with work experience.

The Expansion of the NUS

Of particular interest is the relative growth of the non-university sector. Was this increase faster or slower than the university sector? The question is not easy to answer because of gaps and deficiencies in the data, but it broadly appears that Member countries fall into two groups. Table 2.B shows that in Australia, Belgium, Canada, Finland, France, Greece, Ireland, Norway, Portugal, Switzerland and the United States, the NUS grew faster than the university sector, with a higher proportion of all students in the 1980s than in the 1970s. In other countries, the proportion remained about the same (as in the United Kingdom) or was lower (as in Denmark). In some countries (such as Denmark) these changes resulted from the upgrading of institutions from one sector to the other. In most, it simply reflects differential growth rates. Greece and Sweden were notable for high growth rates in NUIs in the 1970s, and New Zealand throughout the period. The Netherlands, Canada, the United States and, later, Ireland and Norway have had steady moderate growth, whilst NUS enrolments in Finland, and later in Yugoslavia and Italy, have declined. Overall, data suggest

Table 1.A. **Average Annual Growth Rates of Total Enrolments in Higher Education in OECD Countries, 1970-87**

	1970-74	1975-79	1980-84	1985-87
Australia	7.1	2.9	2.1	2.1
Austria	7.1	5.7	3.9	2.8
Belgium	4.0	3.3	5.5	0.9
Canada	1.9	0.8	6.5	0.9
Denmark	6.8	−0.7	1.5	1.7
Finland	3.7	. .	−0.4	2.9
France	4.3	. .	. .	1.3
Germany	9.3	2.0	4.4	1.6
Greece	5.1	1.0	6.8	1.3
Iceland	9.6	7.1	. .	. .
Ireland	5.9	1.2	4.2	3.1
Italy	6.2	2.4	1.1	. .
Japan	3.5	1.5	−0.1	2.3
Luxembourg	7.5	. .	. .	. .
Netherlands	2.7	4.0	1.6	2.1
New Zealand	. .	0.8	4.6	3.3
Norway	5.2	3.3	3.5	6.7
Portugal	5.2	2.8	4.1	. .
Spain	15.1	4.3	4.7	3.3
Sweden	−1.8	4.3	. .	. .
Switzerland	4.0	9.2	4.5	. .
Turkey	9.2	8.6	12.0	4.4
United Kingdom	3.2	1.7	3.9	1.7
United States	3.8	0.7	. .	. .
Yugoslavia	6.6	2.6	−2.6	−0.2

Source: OECD educational data bank, new series.

Table 1.B. **Total Enrolments in Higher Education**

	1975	1980	1984	1986
Australia	275 513	323 716	358 498	. .
Austria	96 916	137 755	182 244	199 898
Belgium	159 660	188 232	245 762	252 236
Canada	776 706	888 506	1 152 398	1 179 682
Denmark	118 914	106 241	114 559	118 641
Finland	100 465	113 376	121 002	133 933
France	1 035 819	1 029 547	1 249 064	1 289 942
Germany	1 043 498	1 223 221	1 519 050	1 579 085
Greece	117 246	121 116	167 957	197 808
Iceland	2 970	5 219	. .	. .
Ireland	33 148	41 928	67 378	73 450
Italy	976 712	1 117 742	1 181 953	1 141 127
Japan	2 212 244	2 333 472	2 343 780	2 409 687
Luxembourg	. .	. .	. .	. .
Netherlands	290 240	363 554	390 244	399 776
New Zealand	71 369	76 643	95 754	102 684
Norway	66 628	79 117	94 089	104 246
Portugal	13 538	14 463	18 349	16 423
Spain	540 238	681 022	857 036	985 334
Sweden	162 640	175 785	184 665	182 709
Switzerland	52 623	85 127	105 897	117 017
Turkey	. .	237 369	417 225	502 380
United Kingdom	732 947	832 106	1 006 969	1 065 386
United States	10 223 729	11 569 899	12 464 661	12 247 055
Yugoslavia	394 992	411 995	360 397	350 876

Source: OECD educational data bank, new series.

Table 2.A. **Average Annual Growth Rates of Enrolments in University (Levels 6 and 7) and Non-University-Type (Level 5) Higher Education**

		1970-74	1975-79	1980-84	1985-87
Austria	U	7.2	6.5	3.6	2.9
	NU	6.3	−2.1	7.4	1.0
Belgium	U	1.5	2.1	1.4	0.0
	NU	7.4	4.6	7.3	1.6
Canada	U	1.0	1.9	3.3	1.2
	NU	4.4	−1.5	12.9	0.5
Denmark	U	5.0	7.4	0.8	1.9
	NU	9.0	−16.3	4.3	0.8
Finland	U	3.9	2.0	1.2	2.5
	NU	−4.6	0.5	−4.2	4.0
France	U	3.2	1.2	. .	0.6
	NU	9.2	−2.7	. .	. .
Greece	U	5.2	−2.6	5.4	1.9
	NU	6.5	9.2	9.8	0.5
Ireland	U	2.0	2.2	2.7	2.5
	NU	16.2	0.2	6.5	3.8
Italy	U	6.2	2.4	1.1	. .
	NU	6.1	−3.2	2.3	. .
Japan	U	3.2	1.1	0.0	1.5
	NU	4.6	3.1	−0.4	5.4
Netherlands	U	1.7	4.4	2.2	1.7
	NU	3.5	3.7	0.5	−0.5
New Zealand	U	2.2	2.9	1.6	2.9
	NU	. .	1.6	2.8	2.2
Norway	U	5.4	−0.1	0.8	1.8
	NU	4.9	7.9	6.1	10.7
Portugal	U	0.7	5.0	42.3	. .
	NU	23.8	−1.9	5.2	. .
Switzerland	U	3.7	2.3	3.4	. .
	NU	5.2	13.3	7.0	. .
Turkey	U	4.0	12.4	15.5	−2.7
	NU	19.8	−6.7	. .	. .
United Kingdom	U	5.1	3.0	. .	1.4
	NU	1.6	0.4	. .	1.7
United States	U	1.9	0.4	. .	. .
	NU	8.4	1.3	. .	. .
Yugoslavia	U	6.9	4.4	−1.4	1.0
	NU	5.9	−1.9	−6.9	−6.5

Source: OECD educational data bank, new series.

Table 2.B. **Share (%) of Enrolments in Non-University-Type Programmes out of Total Enrolments in Higher Education (Levels 5, 6, 7)**

	1970	1975	1980	1985	1986	1987
Australia	35.0	. .	. .	52.8	. .	54.1
Austria	11.1	11.0	6.8	7.1	6.5	6.7
Belgium	39.8	47.8	53.6	58.1	59.0	59.3
Canada	25.7	33.2	29.4	39.4	38.7	38.9
Denmark	42.2	45.5	19.6	21.4	20.9	20.8
Finland	3.4	. .	31.7	27.9	28.4	28.8
France	17.5	. .	. .	23.5	24.0	24.9
Germany	30.1	19.7	15.7	13.8	13.5	13.4
Greece	17.7	19.6	29.2	39.0	41.4	38.0
Iceland	. .	6.1	. .	. .	. .	. .
Ireland	22.0	45.7	39.4	44.4	44.6	45.3
Italy	0.8	0.9	0.6	. .	0.8	0.7
Japan	17.4	18.3	19.8	17.3	18.0	19.0
Luxembourg	. .	. .	. .	. .	. .	. .
Netherlands	55.3	58.3	58.5	54.7	52.4	50.6
New Zealand	. .	41.0	42.7	38.3	39.6	37.1
Norway	39.7	38.8	48.7	52.7	58.8	58.9
Portugal	13.8	35.4	26.6	20.0	. .	. .
Spain	5.2	24.9	26.7	0.4	0.3	0.3
Sweden	11.7	30.3	. .	. .	. .	. .
Switzerland	18.0	23.0	27.9	32.1	34.5	. .
Turkey	54.8	80.6	46.6	. .	. .	11.1
United Kingdom	57.0	52.8	50.4	58.2	58.8	58.3
United States	26.0	35.4	37.4	37.0	. .	. .
Yugoslavia	31.0	31.3	24.6	17.8	16.5	14.7

Source: OECD educational data bank, new series.

that the high overall growth rate of the NUS is slowing down. In the early 1970s, of 19 countries listed in Table 2.A, 12 had a higher expansion of enrolments in the NUS than in university-type education; in the late 1970s, only 6 had more rapid growth of non-university programmes (some very slightly).

However, this apparent decline only refers to changes in growth rates of total enrolments; in many countries the increase of the number of new entrants into higher education is still considerable. Table 2.B gives data for new entrants to higher education. It shows that, for most countries, the NUS has a greater share of new entrants than of total enrolments. Examples range from Austria with about 7 per cent of total enrolments but about 20 per cent of new entrants in the NUS, to the United Kingdom with about 60 per cent of total enrolments and 70 per cent in the NUS. Figures for total enrolments do not give a complete picture of the relative contribution of the NUS, as they do not take account of the longer courses taken by university students in many countries.

The evidence from the country studies confirms that the NUS is a significant alternative to the universities in most countries, particularly in terms of growth rates of new entrants, though data on this are limited. In Germany, the NUS has grown rapidly. Overall enrolments in higher education in 1985 were four times higher than in 1960. But whereas student numbers in universities increased by nearly four times, those in the (smaller) NUS (mainly the *Fachhochschulen*) increased by almost seven times (Table 4).

Table 2.C. **Enrolments in Higher Education, by Level of Programme**

	ISCED 5				ISCED 6				ISCED 7			
	1975	1980	1984	1986	1975	1980	1984	1986	1975	1980	1984	1986
Australia	83 552	70 568	92 596	. .	155 208	213 128	237 284	. .	36 753	40 020	25 788	. .
Austria	11 163	10 051	14 690	13 099	85 753	125 485	162 112	179 637	. .	2 219	5 442	7 162
Belgium	76 300	95 748	125 621	114 669	83 360	92 484	120 141	137 567	. .	. .	. .	. .
Canada	151 523	186 399	276 525	261 421	557 348	625 340	786 860	825 309	67 835	76 767	89 013	92 952
Denmark	25 704	23 418	29 003	26 554	93 210	82 823	85 556	92 087	. .	. .	. .	. .
Finland	23 565	28 040	32 077	38 778	72 300	79 882	82 068	86 715	4 600	5 454	6 857	8 440
France	123 075	151 790	203 765	224 076	765 055	728 759	871 462	904 385	147 689	148 998	173 837	161 481
Germany	207 496	191 631	207 575	213 028	. .	. .	. .	. .	836 002	1 031 590	1 311 475	1 366 057
Greece	21 861	35 398	56 511	81 839	95 385	85 718	111 466	115 969	. .	. .	. .	. .
Iceland	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .
Ireland	9 947	11 844	16 758	18 577	21 704	26 205	31 516	35 131	1 497	3 879	3 890	2 871
Italy	22 091	31 411	31 194	30 160	922 297	1 023 658	1 083 016	1 064 481	32 324	62 673	67 743	46 486
Japan	391 867	410 224	417 660	434 209	1 771 913	1 869 256	1 860 428	1 901 207	48 464	53 992	65 692	74 271
Luxembourg	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .
Netherlands	168 045	210 677	215 759	209 373	122 195	152 877	166 818	172 313	. .	. .	. .	. .
New Zealand	32 484	34 662	43 921	49 186	35 676	37 623	47 149	49 098	4 518	5 716	7 257	7 285
Norway	24 198	34 967	43 322	51 483	17 143	19 298	24 737	26 477	25 287	24 852	26 030	26 286
Portugal	8 765	4 362	6 756	7 550	4 339	10 101	11 593	8 873	434	. .	. .	. .
Spain	137 997	3 108	2 595	204	402 241	677 914	829 693	953 801	. .	. .	24 748	. .
Sweden	40 396	. .	101 015	97 823	109 734	163 698	77 432	79 470	12 510	12 087	13 132	12 103
Switzerland	. .	24 674	34 792	. .	. .	52 240	60 341	. .	. .	8 213	10 764	. .
Turkey	. .	18 284	45 642	55 767	. .	219 085	352 543	425 833	. .	. .	19 040	23 491
United Kingdom	300 327	239 622	356 100	376 802	345 901	491 658	540 820	566 625	86 086	100 826	110 108	124 959
United States	3 403 994	4 216 666	4 723 466	4 531 077	5 394 734	5 781 321	6 122 529	6 065 597	1 425 001	1 571 912	1 618 666	1 650 381
Yugoslavia	123 475	101 687	71 079	57 806	271 517	310 308	289 318	293 070	. .	. .	. .	. .

Source: OECD educational data bank, new series.

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Table 3.A. **New Entrants to Non-University-Type Programmes (Level 5) as a Percentage of Total Number of New Entrants to Higher Education (Levels 5 and 6) 1986**

Australia	44.3[a]	Netherlands	54.2
Austria	18.8	New Zealand	28.8[a]
Denmark	32.1	Portugal	11.4[a]
Finland	57.1	Sweden	71.9
France	39.2	Switzerland	61.0[a]
Germany	36.4	Turkey	17.6
Greece	45.4	United Kingdom	47.2
Italy	3.6	United States	51.3
Japan	32.9	Yugoslavia	22.1

a) 1984.
Source: OECD educational data bank, new series.

The rate of expansion of the French system of higher education was similar to that of Germany. Both systems started with less than 300 000 students at about 1960, and both have reached almost 1.4 million by now. Comparisons depend on whether the *Instituts universitaires de technologie* (IUTs) are included in or excluded from the university sector. Although from the outset the IUTs were organisationally integrated into the universities as teaching and research units with a special status, they remain separate units specialising in short-cycle vocational education and, as such, they are considered here as NUS. The *Sections de techniciens supérieurs* which officially are part of the secondary system are also included. Enrolments in both these sectors of 2-year post-secondary technical training almost quadrupled between 1966-67 and 1979-80, whereas the student numbers at universities only doubled (Table 5).

In the United Kingdom, there was a noticeable increase in the participation rates in higher education, although the increases are not as large as in the previous two cases. Table 6 shows that from 1970, the numbers fell and those of full- and part-time students in the United Kingdom rose only by just over half, from 621 000 in 1970-71 to 937 000 in 1985-86. Moreover, the NUS has grown more than the traditional university sector. Whereas the universities (including the rapidly-expanding Open University) grew by 36 per cent, the sector of Advanced Further Education saw an increase of 48 per cent to over 500 000 students, so that the NUS is bigger than the university sector. In terms of entrants, numbers on full-time courses in the NUS increased by 41 per cent to 128 000 between 1970-71 and 1985-86, whereas in universities they increased by 34 per cent to 121 000. The differentials between the sectors are smaller in the United Kingdom than in many countries, however, because many courses in the NUS are of similar length to university degree courses.

The United States of America also saw a vast expansion of its higher education system in the 1960s and 1970s. But generally the biggest changes occurred somewhat earlier than in Europe. Over 15 years since 1970, the total higher education enrolment in the United States rose by about half. From 1963, when the total student numbers were not much more than 4.5 million, the numbers tripled. During the 1980s, however, the figures remained

Table 3.B. **New Entrants in Higher Education, by Level of Programme**

	ISCED 5				ISCED 6				TOTAL			
	1975	1980	1984	1986	1975	1980	1984	1986	1975	1980	1984	1986
Australia	. .	. .	43 840	. .	. .	. .	78 843	. .	. .	. .	98 978	. .
Austria	. .	3 988	5 856	5 196	. .	18 246	22 046	23 385	. .	21 492	27 063	27 670
Belgium	. .	. .	. .	. .	. .	20 723	29 096	. .	. .	. .	. .	65 256
Canada	. .	142 912	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .
Denmark	. .	8 924	10 973	9 937	. .	16 433	18 366	20 981	25 727	25 357	29 339	30 918
Finland	9 900	11 929	13 395	17 222	11 300	11 200	12 650	12 947	21 200	23 129	26 045	30 169
France	. .	. .	101 995	108 491	. .	. .	160 284	167 965	252 678	. .	262 279	276 456
Germany	106 852	96 037	99 044	99 928	130 562	160 934	181 992	174 761	237 414	256 971	281 036	274 689
Greece	9 312	15 571	29 850	22 697	22 727	18 733	31 448	27 325	32 039	34 304	59 851	50 022
Iceland	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .
Ireland	. .	6 723	. .	. .	. .	8 619	. .	. .	10 700	15 342	17 929	19 166
Italy	8 073	10 155	9 240	9 035	237 894	236 726	247 219	240 904	245 967	246 881	256 459	249 939
Japan	188 531	190 901	193 698	220 694	434 371	420 128	423 546	449 850	622 884	611 029	617 244	670 544
Luxembourg	. .	. .	. .	. .	. .	618	. .	670	. .	. .	. .	. .
Netherlands	. .	41 010	43 028	45 984	19 431	23 135	27 074	41 001	. .	63 690	95 047	84 895
New Zealand	. .	. .	5 372	. .	. .	. .	8 852	. .	14 087	14 722	18 658	22 013
Norway	. .	. .	. .	. .	. .	. .	. .	. .	1 985	10 766	11 381	12 016
Portugal	3 822	. .	2 871	. .	. .	14 156	21 073	23 070	. .	20 373	25 203	. .
Spain	. .	1 078	154	81	. .	149 670	185 681	200 624	. .	150 748	185 835	200 705
Sweden	. .	. .	55 713	62 468	. .	. .	25 195	24 509	. .	71 944	80 908	86 911
Switzerland	. .	. .	21 161	. .	. .	. .	12 919	. .	11 585	. .	34 707	. .
Turkey	. .	. .	21 660	23 256	. .	. .	101 332	108 992	. .	51 511	122 992	132 248
United Kingdom	. .	. .	. .	143 000	. .	. .	. .	159 900	. .	350 124	. .	302 900
United States	1 234 000	1 328 000	1 312 000	1 176 000	1 132 000	1 078 000	1 175 000	1 116 000	2 366 000	2 503 000	2 444 000	2 292 000
Yugoslavia	26 363	18 565	29 862	22 293	62 287	43 676	77 161	78 389	88 650	62 241	107 023	100 682

Source: OECD educational data bank, new series.

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Table 4. GERMANY: New Entrants and Enrolments, by Type of Institution (1960-86)

	New entrants					Students by type of institution				
	Total		*Of which:*			Total		*Of which:*		
			Universities	Colleges of Art and Music	Fachhochschulen			Universities	Colleges of Art and Music	Fachhochschulen
	Thousands	Percent[a]	Thousands			Thousands	Percent[b]	Thousands		
1960	79.4	7.9	60.0	2.6	16.8	291.1	4.3	238.4	8.5	44.2
1965	85.7	13.3	61.3	2.5	21.9	384.4	6.6	299.7	8.7	76.0
1970	125.7	15.4	91.6	3.4	30.5	510.5	9.5	410.1	10.9	89.5
1975	166.6	19.5	119.9	2.8	43.8	840.8	14.1	680.2	15.4	145.2
1976	168.1	19.1	119.0	2.6	46.5	877.3	14.7	705.0	15.3	157.1
1977	165.5	18.3	118.2	2.7	44.5	913.3	15.0	732.7	15.4	165.4
1978	172.5	18.4	125.3	3.3	43.9	945.9	15.2	756.9	16.2	172.8
1979	177.7	18.2	125.2	3.0	49.6	983.6	15.3	784.2	17.0	182.4
1980	195.0	19.1	135.6	3.1	56.3	1 044.2	15.9	823.9	18.3	202.0
1981	216.6	20.9	151.5	3.0	62.1	1 121.6	16.4	877.9	19.1	224.7
1982	225.1	21.3	155.2	3.1	66.8	1 203.1	17.1	931.9	19.9	251.4
1983	233.0	21.5	160.1	2.9	69.9	1 273.2	17.8	976.6	20.4	276.1
1984	221.3	20.6	151.5	2.9	66.9	1 314.2	18.0	1 001.1	21.0	292.1
1985	207.7	19.5	141.3	3.0	63.4	1 338.0	18.1	1 015.1	21.7	301.3
1986	210.8	20.2	142.7	2.7	65.4	1 367.7	18.3	1 033.2	22.0	312.5

a) As a percentage of the average year in the 19-21 age group.
b) As a percentage of the average year in the 19-26 age group.
Source: *Basic and Structural Data, 1987/88*, Federal Ministry of Education and Science.

Table 5. FRANCE: The Growth of IUTs[a] within Higher Education (1966-79)

Year	IUTs		Student enrolment (thousands)					
	Establishments	Departments	Short-cycle technical			University[c]	Other[d]	Total
			IUT[a]	STS[b]	Subtotal			
1966-67	13	22	1.6	30.0	31.6	–	–	
1967-68	25	66	5.4	28.7	34.1	503.1	108.0	645.3
1968-69	43	135	11.9	27.6	39.5	576.1	111.9	737.5
1969-70	53	171	17.3	26.5	43.8	601.7	118.9	764.4
1970-71	58	225	24.4	26.8	51.2	627.0	113.0	791.2
1971-72	54	223	33.7	26.5	60.2	664.1	135.0	856.3
1972-73	56	238	35.4	32.2	67.6	669.8	–	–
1973-74	58	257	38.9	35.3	74.2	704.1	133.3	910.6
1974-75	62	262	41.7	41.5	83.2	718.6	177.7	979.6
1975-76	66	266	43.5	46.2	89.7	762.8	205.3	1 057.3
1976-77			44.2	48.4	92.6	782.1	193.8	1 068.5
1977-78			47.4	52.7	100.1	796.6	206.5	1 103.2
1978-79			50.2	56.1	106.3	813.0	–	–
1979-80			52.3	61.4	113.7	808.6	–	–

a) *Instituts Universitaires de Technologie.*
b) *Sections de techniciens supérieurs.*
c) Exclusive of IUTs.
d) Includes preparatory classes for *Grandes Ecoles* (CPGE), *Grandes Ecoles*, teacher training schools, etc.
Source: INSEE, *Annuaire Statistique de la France, 1967-81.*

comparatively stable. As in the United Kingdom, there was even a slight decline between 1982 and 1984. Furthermore, Table 7 shows that the quantitative relationship between university-type institutions (4-year colleges and universities) and the NUS (primarily the 2-year community colleges) is more like the situation in the Federal Republic of Germany, insofar as almost two-thirds of the overall student population (including graduate students) in the United States study in university-type (4-year degree-granting) institutions. Perhaps more important is the fact that the expansion of the NUS was much bigger than that of the universities. While the latter grew by less than half between 1970 and 1984, the former more than doubled. Considering new entrants to the system, one source even claims that "Community, technical and junior colleges now make up the largest single segment of America's post-secondary education system, enrolling over 50 per cent of entering college freshmen and 43 per cent of the total undergraduate population." (OECD country study, United States, part B). It may be added that these figures do not include enrolments in proprietary schools which in 1982 amounted to over one million students (Table 18).

The situation in Canada is similar to that in the United States, insofar as the main expansion happened in the 1960s. Between 1969-70 and 1985, the overall growth rate slowed down. Nevertheless, the university sector expanded during that period by over one-third to 470 000 students, and the NUS almost doubled to 322 000. While the university sector is still the biggest single component of the Canadian tertiary education system, there is a clear tendency for the NUS at least to draw even. "In summary, enrolment in non-university institutions continues to rise even though the age group from which post-secondary enrolment has traditionally been drawn declines in number. The colleges' rate of growth, in fact, has been greater than that of universities. Estimates suggest that total enrolment in colleges has overtaken the university sector." (OECD country study, Canada).

One of the biggest overall increases in higher education was experienced by New Zealand. Between 1961 and 1986, the total number of students in tertiary institutions grew by more than five times, from 78 651 to 422 495, an annual increase of 7 per cent (Table 8). The number of university students quadrupled, but the fastest increase was in the NUS, particularly in the area of Continuing Education, which with 357 000 students is now almost six times larger than in 1961.

Austria and Italy, where the NUS is hardly existent, represent special cases. The country report on Austria refers to "discussions on the *introduction* of first-tier programmes and the NUS", although it also shows that a NUS has indeed existed for some time, but with a clear downward tendency (OECD country study, Austria). While the overall tertiary education system grew by more than 300 per cent between 1970 and 1986, with the university sector expanding by 343 per cent, student numbers in the NUS increased only between 1970 and 1975 (see Tables 9, 10 and 11). Since then, the figures have stagnated, and were lower in 1986 than in 1975. The reason is that the majority of the courses in the NUS are teacher training courses, and employment chances for teachers have decreased rapidly during the last ten years.

Among the smaller systems of higher education, it is interesting to compare Austria with the Netherlands, since they differ in one important respect. While the Netherlands also saw a significant increase of the university sector during the last decade, its NUS (HBO) also continued to grow (expanded by more than one-third since 1975), and is now bigger than the university sector (Table 12).

In Norway, the NUS has expanded more rapidly than the university sector and has overtaken it over a period of roughly twenty years. While total student numbers in

Table 6. **UNITED KINGDOM: Students in Higher Education (1971-85)**
Thousands

	Universities[a]						Open University[c]	Advanced further education courses[b]				All students
	Full-time			Part-time				Full-time		Part-time		
	Undergraduate level	Postgraduate level	Total	Undergraduate level	Postgraduate level	Total		Teacher training[d]	Other	Day	Evening	
1970-71	192	43	235	5	18	23	20	125	96	76	45	621
1975-76	218	51	269	4	23	26	56	113	133	96	41	734
1977-78	238	50	288	4	25	29	66	70	163	107	44	767
1978-79	246	50	296	4	25	30	70	51	173	120	44	783
1979-80	252	49	301	4	27	31	69	44	179	125	46	795
1980-81	258	48	307	5	29	33	68	38	190	141	50	827
1982-83	258	46	304	5	29	35	75	33	231	149	49	876
1983-84	252	48	301	6	30	36	76	32	248	153	51	897
1984-85	255	50	305	9	32	41	77	33	251	152	50	909[e]
1985-86	256	54	310	9	33	42	78	35	255	162	55	937

a) From 1971-72 onwards students at universities on courses "not of a university standard" are included in the figures for undergraduate level.
b) Including certain students on courses not leading to a specified qualification; namely in Scotland new entrant students and from 1977-78 total students, in Northern Ireland total students in 1975-76.
c) All students including associate and post-graduate students.
d) Excluding students in university departments of education (5.2 thousand first-year students in 1984-85); these have been included under "Universities".
e) In addition there were 98 thousand (40 thousand first-year) students enrolled on nursing and paramedical courses in DHSS (Department of Health and Social Security) establishments.
Sources: *Education Statistics for the United Kingdom*, 1982 Edition, Table 23 (ii); 1986 Edition, Table 25 (ii).

universities more than doubled between 1965 and 1984, the NUS more than tripled. Between 1978 and 1985 the proportion of NUS students of the total in higher education increased from 42 to 55 per cent (Tables 13 and 14).

Japan in some respects is untypical in comparison to other Member countries. In the early 1960s, it witnessed a similar rapid expansion of student number as other countries. Student numbers in universities more than doubled to 1.3 million in 1970, and the attendance at junior colleges (the major component of the NUS) more than tripled to 263 000 (Table 16). The second type of NUIs, the technical colleges, was only introduced in 1965, but with immediate success. Between 1965 and 1970, their student numbers tripled to nearly 18 000. The third type of NUS, the *Senshu Gakko* ("special training schools") was created in 1976. It is the only sector of higher education which has expanded in significant numbers in recent years; it has now more students than the junior colleges with 434 000 enrolments in 1986. But in comparison with most other countries, the remarkable fact is that since 1975 the university sector as well as two types of institutions within the NUS have remained in a steady state, while only one type of NUS, the *Senshu Gakko*, has continued to expand.

Generally, during the last twenty or thirty years, Member countries have experienced expansion of their post-secondary education systems, however with the emphasis of growth

Table 7. **UNITED STATES: Enrolment in Higher Education, by Type of Institution, (1970-87)**

Type of institution	1970[a]	1975[a]	1980[a]	1985[a]	1986[a]	1987[b]
1	2	3	4	5	6	7
Total	8 580 887	11 184 859	12 096 895	12 247 055	12 504 501	12 768 307
Full-time	5 816 290	6 841 334	7 097 958	7 075 221	7 120 076	7 231 506
Men	3 504 095	3 926 753	3 689 244	3 607 720	3 599 295	3 610 918
Women	2 312 195	2 914 581	3 408 714	3 467 501	3 520 781	3 620 588
Part-time	2 764 597	4 343 525	4 998 937	5 171 834	5 384 425	5 536 801
Men	1 539 547	2 222 244	2 185 130	2 210 730	2 285 681	2 321 213
Women	1 225 050	2 121 281	2 813 807	2 961 104	3 098 744	3 215 588
4-year, total	6 261 502	7 214 740	7 570 608	7 715 978	7 824 502	7 992 085
Full-time	4 587 379	5 080 256	5 344 163	5 384 614	5 423 580	5 522 837
Men	2 732 796	2 891 192	2 809 528	2 781 412	2 774 642	2 790 751
Women	1 854 583	2 189 064	2 534 635	2 603 202	2 648 938	2 732 086
Part-time	1 674 123	2 134 484	2 226 445	2 331 364	2 400 922	2 469 248
Men	936 189	1 092 461	1 017 813	1 034 804	1 049 212	1 068 557
Women	737 934	1 042 023	1 208 632	1 296 560	1 351 710	1 400 691
2-year, total	2 319 385	3 970 119	4 526 287	4 531 077	4 679 999	4 776 222
Full-time	1 228 911	1 761 078	1 753 795	1 690 607	1 696 496	1 708 669
Men	771 299	1 035 561	879 716	826 308	824 653	820 167
Women	457 612	725 517	874 079	864 299	871 843	888 502
Part-time	1 090 474	2 209 041	2 772 492	2 840 470	2 983 503	3 067 553
Men	603 358	1 129 783	1 167 317	1 175 926	1 236 469	1 252 656
Women	487 116	1 079 258	1 605 175	1 664 544	1 747 034	1 814 897

a) Data revised from previously published figures.
b) Preliminary data.
Source: 1989 Digest of Education Statistics.

at different times. This overall increase in student numbers went along with a distinct process of structural differentiation. The hegemony of the traditional university sector has been substituted by a diversified, multi-functional institutional framework of higher education in all countries. The non-university sectors generally grew most in the mid- to late 1970s, when their growth rate often outstripped the university sectors, but in recent years, this differential has diminished in some countries. In other cases, like Germany, the NUS still continues to grow more rapidly than the university sector. The relative weight of the sectors varies in different countries; there are several in which the NUS is now larger than the university sector in terms of total numbers of students or new entrants. In some countries, further differentation is emerging as the "third sector" develops.

The Development of the "Third Sector"

Alongside these developments in the two formally recognised sectors of higher education, several countries have seen a significant growth of the "third sector". Data on this are scarce and the numbers involved are generally estimates. Japan, however, is unusual, with

its large, statistically acknowledged "third sector" *(Kakusho Gakko)* which has been existent since the early 1950s. More importantly perhaps, this third sector has been most successful in the 1960s and early 1970s when it had the highest number of students; it then began to shrink and in 1986 had less than half of the student population it had in 1976 (see Table 16). In the United States the "proprietary" trade and technical schools are the fastest growing sector of post-secondary education, both in number of students enrolled and in expenditure. Perhaps with the exception of Japan and the United States, this sector is, however, difficult to quantify.

In other Member countries, the institutions in this sector are also mainly private colleges. Typical are the schools and colleges offering courses in information technology and economics in Norway, and the diverse range of institutions in the United Kingdom, offering courses and qualifications particularly in health sciences, languages and business management and similar subjects. Several prestigious management colleges and major colleges for professions such as law and accountancy are in this sector in the United Kingdom. Included too in this sector are courses offered in collaboration between private industries and public authorities, and by large industrial companies for their own employees, where they are sometimes referred to as the "corporate classroom". The latter phenomenon is a particular feature of the sector in the United States. Estimates of corporate spending on education (from $40 billion upwards) approach the total annual expenditure of all of America's four-year universities and colleges. Many corporations offer programmes which are accredited by academic bodies, and eighteen in 1985 had degree-granting programmes.

The United Kingdom country report speaks of a "substantial, but unquantified" sector, though the Department of Education and Science estimates that there are 300 000 students in private higher education. In Germany this is a recently emerging area which has not found entry into official statistics. Student numbers in any case vary considerably from country to country. While in the United States the total enrolment in private or public, proprietary or non-profit, career schools was more than 1.5 million in 1982 (Table 18), in quantitative terms, the "third sector" in Germany does not yet play a major role; the Institute of the German Economy *(Institut der deutschen Wirtschaft)* reckons that altogether roughly 8 000 special training places of that kind exist (Kramer, 1986, p. 3). In the case of Japan, as we have seen, the large enrolment figures in the *Kakushu Gakko* from the 1960s have gone down dramatically, primarily due to the high costs within this sector. New Zealand's third sector is also not of primary importance within its overall system of higher education, despite the fact that private business and commercial colleges played a major role in the past. But the establishment of polytechnics in the 1950s and 1960s "adversely affected" these colleges. Although the range of other private providers has grown substantially during the last decade, including the continuing education programmes of national professional and occupational organisations and specialist courses offered by private companies, the general impact on the tertiary education system is not yet large. In conclusion: "At this stage the private sector is neither a prime competitor in the higher education market nor a strong paradigm of further development of the non-university sector." (OECD country study, New Zealand).

Despite this rather sceptical judgement from New Zealand, the general impression in Member countries is that the "third sector" may well turn out to become a strong alternative to traditional higher education and a major challenge to the formalized, securely-established traditional university sectors and the almost equally institutionalised structures of the NUS. A lot will depend on the future pace of economic and technological change and on the relative flexibility of the other sectors to adapt to these structural modifications and demands.

Table 8. NEW ZEALAND: Tertiary Education Enrolments (1961-86)

Category	1961		1966		1971		1976		1981		1986	
	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%
Continuing education												
Polytechnics :												
Full-time[a]	377	0.5	1 211	1.0	2 236	1.5	4 260	2.4	6 915	2.3	9 443	2.2
Part-time[b]	8 335	10.6	12 161	10.4	14 701	10.2	35 151	19.5	35 849	12.1	35 966	8.5
Block courses[c]									29 592	10.0	35 328	8.4
Short courses and seminars[d]									67 572	22.8	109 248	25.9
Distance education	5 861	7.5	13 247	11.4	15 456	10.7	21 712	12.0	30 091	10.1	33 599	8.0
Polytechnics subtotal	14 537	18.6	26 619	22.9	32 393	22.5	65 383	36.2	170 019	57.3	223 584	52.9
Secondary school[e]	43 444	55.2	60 682	52.0	66 374	45.9	62 750	34.7	67 851	22.9	133 465	31.6
Total continuing education	58 017	73.8	87 301	74.9	98 767	68.4	128 133	70.9	237 870	80.2	357 049	84.5
Teachers colleges	3 814	4.8	5 022	4.3	8 154	5.6	7 521	4.2	5 901	2.0	3 467	0.8
Universities :												
Full-time[f]	8 741	11.1	15 467	13.3	24 995	17.3	26 144	14.5	31 549	10.6	35 177	8.3
Part-time[g]	6 585	8.4	6 910	5.9	9 412	6.5	12 591	7.0	13 379	4.5	14 188	3.4
Extra-mural	1 494	1.9	1 925	1.7	3 168	2.2	6 314	3.5	8 028	2.7	12 614	3.0
Total universities	16 820	21.4	24 302	20.8	37 575	26.0	45 049	24.9	52 956	17.8	61 979	14.7
Total	78 651	100.0	116 625	100.0	144 496	100.0	180 703	100.0	296 727	100.0	422 495	100.0

a) Full-time study at polytechnics involves a minimum class attendance of 22.5 hours/week for up to 36 teaching weeks per year and for which students receive a tertiary assistance grant.
b) Part-time generally involves attendance for 2-12 hours a week for a full year.
c) Block courses involve full-time attendance of 25 hours per week for at least 2 weeks and up to 12 weeks.
d) Short courses involve part-time attendance for less than 2 weeks. Seminars involve full-time attendance for less than a week.
e) Comprised are adults who attend part-time evening classes.
Excluded are adults who attend secondary school day classes to obtain a national secondary school qualification.
f) Full-time university study is equivalent to enrolment in six first year papers for approximately 27 weeks.
g) Part-time university study is enrolment in 2-3 first year papers for approximately 27 weeks.
Source: Annual Reports of the Department of Education.

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Table 9. **AUSTRIA: Students in Post-Secondary Institutions, by Sex (1970-86)**

Academic year	Universities			NUs[a]			Total		
	Total	Female	Female in %	Total	Female	Female in %	Total	Female	Female in %
1970	43 122	10 968	25.4	8 889	5 490	61.8	52 011	16 458	31.6
Index	100	100		100	100		100	100	
1975	68 292	23 539	34.5	16 125	10 419	64.6	84 417	33 958	40.2
Index	158	215		181	190		162	206	
1980	110 114	40 301	40.3	16 422	11 233	68.4	116 536	51 534	44.2
Index	232	367		185	205		224	313	
1981	109 013	44 843	41.1	17 081	11 623	68.1	126 094	56 466	44.8
Index	253	409		192	212		242	343	
1982	116 602	48 873	41.9	17 330	11 758	67.8	133 932	60 631	45.3
Index	270	446		195	214		258	368	
1983	124 320	52 712	42.4	17 689	12 053	68.1	142 009	64 765	45.6
Index	288	481		200	220		273	394	
1984	132 891	57 232	43.1	17 335	11 596	66.9	150 226	68 828	45.8
Index	308	522		195	211		289	418	
1985	141 144	61 621	43.7	16 454	10 994	66.8	157 598	72 615	46.1
Index	327	562		185	200		303	441	
1986	148 078	65 072	43.9	15 705	10 467	66.6	163 783	75 539	46.1
Index	343	593		177	191		315	459	

a) Inclusive Colleges of Arts and Music.
Source: Country study.

Table 10. **AUSTRIA: Students in Post-Secondary Institutions, as a Percentage of the Corresponding Age Group (1970-86)**

	18-21 years old population	Percentage in higher education			18-25 years old population	Percentage in higher education	
		Total	University	NUs		Total	University[a]
1970	403 752	6.2	3.9	2.2	796 704	6.5	5.4
1975	429 715	10.0	6.2	3.8	836 550	10.1	8.2
1980	486 246	11.1	7.7	3.4	919 337	12.7	10.9
1981	499 162	11.5	8.1	3.4	964 198	13.1	11.3
1982	518 540	11.4	8.1	3.3	994 077	13.5	11.7
1983	527 570	11.6	8.2	3.4	1 017 258	14.0	12.2
1984	525 995	11.9	8.6	3.3	1 030 699	14.6	12.9
1985	520 210	12.2	9.0	3.2	1 037 494	15.2	13.6
1986	513 673	12.4	9.3	3.1	1 041 722	15.7	14.2

a) Inclusive the percentage of all students (including students older than 25 years) of the age group 18-25, which means that the figures are overestimated.
Source: Country study.

Table 11. **AUSTRIA: Percentage of New Entrants, Students and Graduates in Post-Secondary Institutions (1970-86)**

	New entrants		Students		Graduates	
	Universities	NUs	Universities	NUs	Universities	NUs
1970	63.3	36.7	82.9	17.1	53.9[a]	46.1
1975	62.8	37.2	80.9	19.1	48.0[b]	52.0
1980	68.9	31.1	85.9	14.1		
1981	69.9	30.1	86.5	13.5	51.6	48.4
1982	69.0	31.0	87.1	12.9	51.5	48.5
1983	70.8	29.2	87.5	12.5	50.9	49.1
1984	74.3	25.7	88.5	11.5	55.7	44.3
1985	76.0	24.0	89.6	10.4	56.6	43.4
1986	76.5	23.5	90.4	9.6	56.6	43.4

a) 1971.
b) 1976.
Source: Country study.

Table 12. **THE NETHERLANDS: New Entrants, Enrolments and Graduates: Universities and H.B.O.[a] (1975, 1980 and 1985)**

	New entrants		Enrolments		Graduates	
	Universities	HBO	Universities	HBO	Universities	HBO
1975	22 310	50 938	113 340	141 665	9 682	26 193
1980	26 896	61 534	147 881	170 555	11 146	33 893
1985	29 529	64 476	166 521	190 447	17 630	31 717
	Indices					
1975	100	100	100	100	100	100
1980	121	110	130	120	115	129
1985	132	114	147	134	182	121

a) *Hoger beroepsonderwijs* (higher vocational training).
Source: *Feiten en Ciffers* (Facts and Figures), Part 2 of the draft Higher Education and Research Plan 1988-89.

Table 13. **NORWAY: Total and Part-time Enrolments in Universities and Non-University Institutions (1965-85)**

	Total		Universities[a]		Non-university institutions[b]	
	Total	Part-time	Total	Part-time	Total	Part-time
1965	36 397	. .	19 528	. .	16 869	. .
1975	66 816	7 072	40 774	5 294	26 042	1 778
1981	81 606	10 722	39 827	4 600	41 779	6 122
1982	88 008	14 489	41 002	5 104	47 006	9 385
1983	90 381	15 800	41 367	5 333	49 014	10 467
1984	93 535	16 764	42 373	5 511	51 162	11 253
1985	92 345[c]	19 625	42 000[c]	8 625	50 345[c]	11 000

a) The Universities of Oslo, Bergen, Trondheim and Tromsø, the Agriculture University of Norway, the Free Faculty of Theology, the Norwegian College of Physical Education and Sports, the Norwegian College of Music, the State Academy of Art, the Norwegian College of Economics and Business Administration.
b) Regional colleges, colleges of teacher training, colleges of engineering, colleges of social studies, colleges of health education, military colleges and other colleges of higher education.
c) For the College of Arts and Science at the University of Trondheim and the Norwegian School of Management, only 1984 figures were available, which may explain the slight drop from 1984 to the 1985 estimates.

Table 14. **NORWAY: Total Enrolments in Higher Education by Type of Institution (1978 to 1985)**

	1978	1981	1984	1985
Universities	39 538	39 827	42 373	42 000
Non-university institutions	29 077	41 779	51 162	50 345
whereof				
Regional colleges	3 971	6 118	7 113	6 806
Colleges of teacher training	12 023	13 982	13 075	12 391
Colleges of engineering[a]	6 199	6 637	7 353	7 755
Colleges of social work	1 019	1 126	990	1 164
Colleges of health education	356	7 812	8 006	7 919
Military colleges	684	661	661	660
Other colleges of higher education	4 825	5 443	13 964	13 700
Total number of students	68 615	81 606	93 535	92 345
NUIs as percentage of the total	42	51	55	55

a) Including correspondence students.
Source: Central Bureau of Statistics, Educational Statistics, Universities and Colleges.

Table 15. **JAPAN: Number of Post-Secondary Institutions (1950-87)**

Year	Universities	Junior colleges	Technical colleges	SG[a]	KG[b]
1950	201	149	–	–	4 190
1955	228	264	–	–	7 305
1960	245	280	–	–	8 089
1965	317	369	54	–	7 956
1970	382	479	60	–	8 011
1975	420	513	65	–	7 956
1976	423	511	65	893	7 000
1977	431	515	65	1 941	6 094
1978	433	519	64	2 253	5 737
1979	443	518	62	2 387	5 508
1980	446	517	62	2 520	5 302
1981	451	523	62	2 745	5 027
1982	455	526	62	2 804	4 867
1983	457	532	62	2 860	4 674
1984	460	536	62	2 936	4 474
1985	460	543	62	3 015	4 300
1986	465	548	62	3 088	4 124
1987	474	561	62	3 152	3 918

a) *Senshu Gakko* (special training schools).
b) *Kakushu Gakko* (miscellaneous schools).
Source: *Reports on School Basic Survey.*

Table 16. **JAPAN: Enrolments in Post-Secondary Institutions (1950-87)**

Year	Universities[a]	Junior colleges[b]	Technical colleges[c]	SG[d]	KG
1950	224 734	15 098	–	–	486 609
1955	513 181	77 885	–	–	958 292
1960	601 464	83 475	–	–	1 239 621
1965	895 465	147 563	5 552	–	1 383 712
1970	1 344 358	263 219	17 726	–	1 352 686
1975	1 652 003	353 782	19 182	–	1 205 318
1976	1 739 930	364 880	18 822	90 619	1 087 137
1977	1 786 112	374 244	18 705	268 990	870 103
1978	1 808 995	380 299	18 654	310 800	781 031
1979	1 793 124	373 996	18 475	312 379	770 959
1980	1 741 504	371 124	18 539	337 864	724 401
1981	1 725 814	372 406	18 587	356 479	659 967
1982	1 716 956	374 273	18 764	361 937	627 688
1983	1 729 632	379 425	18 898	385 911	605 944
1984	1 734 080	381 873	19 011	404 153	579 274
1985	1 734 392	371 095	19 315	398 821	530 159
1986	1 758 635	396 455	19 670	434 489	483 283
1987	1 806 027	437 643	20 031	483 243	466 063

a) Undergraduate students (full-time) alone.
b) Regular-course students (full-time) alone.
c) First- to third-year students (15 to 17 years old) alone.
d) Students in courses requiring graduation from upper secondary schools as qualification for admission.
Source: See Table 15.

Table 17. **JAPAN: Graduates, by Type of Post-Secondary Institution (1974-86)**

Year	Universities	Junior colleges	Technical colleges	SG[a]	KG[b]
1974	300 135	130 786	8 100	–	995 907
1976	326 167	150 863	8 578	–	1 110 893
1978	356 981	162 626	8 137	177 465	924 010
1980	378 666	169 930	7 951	202 738	895 973
1982	382 466	167 170	7 930	231 075	814 901
1984	372 247	170 041	8 133	247 882	799 522
1986	376 260	171 845	8 293	264 961	692 395

a) and *b)* See Table 15.
Source: See Table 15.

Table 18. **UNITED STATES: Total and Average Enrolment, Public and Private Career Schools (1976-82)**

	1976		1978		1980		1982	
	Total	Average	Total	Average	Total	Average	Total	Average
Total enrolment	1 252 310	160.8	1 500 026	198.6	1 540 037	209.7	1 577 511	220.6
Public	469 921	514.7	466 847	522.2	505 164	567.6	439 002	522.0
Private								
Proprietary	655 386	114.0	927 108	163.8	972 866	171.4	1 051 668	190.9
Non-profit	113 836	123.6	105 794	105.9	62 396	80.2	86 428	107.9
Religious	13 530	66.0	0	0.0	0	0.0	0	0.0

Source: HEGIS Surveys of Post-secondary Career Schools, several years.

3. CHARACTERISTICS OF THE STUDENT BODY

Gender Distribution

The structural changes in the tertiary education systems also involve the composition of the student population. The NUS institutions cater broadly for three kinds of students: school-leavers entering post-school education directly, often with qualifications that would enable them to enter universities; adults entering post-school education for the first time, sometimes without formal qualifications; and students seeking some form of continuing education. The main structural change has however consisted in the increased share of women which has occurred in practically all systems of higher education. Although this is not an exclusive characteristic or merit of the NUS, the latter has been affected by this development. There are again noticeable differences between Member countries. In Canada, for instance, the proportion of women in post-secondary education has increased dramatically since the war: "Females now comprise slightly more than half of college enrolment and slightly less than half of university enrolment." (OECD country study, Canada).

In Germany, on the other hand, the ratio of women in the NUS is, despite an overall increase in the tertiary education system from just over a quarter in 1960 to roughly 40 per cent in 1985, comparatively small (Table 19). In that respect the overall development in the United Kingdom is rather similar. The total enrolments of women in higher education have increased much more rapidly than those of men since the beginning of the 1970s, and women now constitute 41 per cent of students (Table 20). However, in another respect, the development is different from that of Germany. While the rate of growth (of female participation) was considerably higher in the university sector than in the NUS, the latter still caters for larger numbers of women (206 000) than the university sector (151 000). This is explained by the fact that "advanced further education" in the United Kingdom includes teacher training institutions, which in the case of Germany have almost all been integrated into the university sector. Also in the case of Germany, curricular specialities play an important role, because engineering and the sciences dominate the courses, which certainly had consequences for the proportion of women studying in the NUS.

In Japan, the situation is again surprisingly different. There, the percentage of women in the university sector remains rather low, at 24 per cent in 1986. Big differences exist between the tertiary sectors themselves. On the one hand are the junior colleges where more than 90 per cent of students are women, and the special training schools with almost 60 per cent, whereas the technical colleges have less than 5 per cent (Table 21). The female participation in the third sector has gone down, but less than the overall decrease, and half of the student population in this sector is still female.

The complicated situation in Japan, which prohibits a simple transfer of West European or North American models of judgement, is again highlighted by the particular features of its junior colleges. While the enormous proportion of female students of more than 90 per cent

Table 19. **GERMANY: New Entrants and Enrolments, by Type of Institution, Females (1960-86)**

Year[a]	Female new entrants by type of institution					Female students by type of institution				
	Total[b]		*Of which:*			Total[b]		*Of which:*		
			Universities	Colleges of Art and Music	Fachhochschulen			Universities	Colleges of Art and Music	Fachhochschulen
	Thousands	%[c]	Thousands			Thousands	%[c]	Thousands		
1960	21.4	4.4	20.4	1.0	. .	69.7	2.1	66.6	3.2	. .
1965	25.4	8.1	24.4	1.0	. .	96.0	3.4	92.6	3.4	. .
1970	36.2	9.1	34.9	1.3	. .	130.5	5.1	126.5	4.0	. .
1975	61.0	14.6	49.2	1.3	10.5	283.2	9.6	243.6	6.5	33.1
1976	58.2	13.5	45.7	1.1	11.4	294.2	10.0	251.3	6.5	36.4
1977	64.2	14.6	50.4	1.3	12.5	314.2	10.5	266.8	6.8	40.6
1978	68.7	15.1	53.7	1.5	13.5	334.1	11.0	281.3	7.3	45.5
1979	69.1	14.5	51.9	1.4	15.8	354.1	11.4	295.1	7.7	51.3
1980	78.1	15.8	58.8	1.4	17.9	383.2	11.9	315.2	8.5	59.6
1981	90.0	17.9	68.5	1.4	20.1	421.9	12.8	345.4	8.9	67.5
1982	90.9	17.7	68.3	1.5	21.1	458.4	13.5	373.3	9.4	75.7
1983	88.0	16.8	66.0	1.5	20.6	482.0	14.2	391.2	9.8	81.0
1984	85.0	16.3	63.9	1.4	19.7	496.1	14.0	401.3	10.2	84.6
1985	82.5	16.0	61.2	1.5	19.8	506.6	14.1	409.0	10.6	87.0
1986	84.7	16.6	62.4	1.3	20.9	518.4	14.3	417.3	10.9	90.2

a) Until 1971, *Fachhochschulen* not included.
b) As a percentage of the 19-21 age group.
c) As a percentage of the 19-26 age group.
Source: See Table 4.

Table 20. **UNITED KINGDOM: Percentage of Women in Higher Education (1971-86)**

	Universities[a]		Open university[c]	Advanced further education[b]	
	Undergraduates	Postgraduates		Full-time	Part-time
1970-71	29	23	25	47	10
1975-76	35	25	39	50	15
1980-81	39	31	44	44	24
1982-83	40	33	45	45	26
1983-84	41	31	46	45	27
1984-85	42	32	45	46	28
1985-86	42	31	46	47	32

a) From 1971-72 onwards, students at universities on courses "not of a university standard" are included in the figures for undergraduate level.
b) Including certain students on courses not leading to a specified qualification; namely in Scotland new entrant students and from 1977-78 total students, in Northern Ireland total students in 1975-76.
c) All students including associate and post-graduate students.
Sources: *Education Statistics for the United Kingdom*, 1982 Edition, Table 23 (ii); 1986 Edition, Table 25 (ii).

in this part of the NUS might be explained in terms of an overall increase of educational opportunities in Japanese society, a closer look reveals more deep-rooted cultural and traditional reasons. As stated in the country study, the NUS in Japan generally has the function, besides providing professional education with lower-level qualifications than in the

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Table 21. **JAPAN: Percentage of Women, by Type of Post-Secondary Institution (1972-86)**

	Universities	Junior colleges	Technical colleges	SG[a]	KG[b]
1972	19.0	84.2	1.4	–	66.7
1974	20.7	85.5	1.5	–	64.2
1976	21.7	87.0	1.6	79.4	59.2
1978	22.0	88.1	1.8	70.6	54.6
1980	22.1	89.0	2.0	66.5	52.5
1982	22.3	89.8	2.4	62.5	49.8
1984	23.1	89.9	3.2	59.1	48.0
1986	24.1	90.3	4.1	56.6	50.6

Notes and *Source*: See Table 15.

university sector, to "provide short-term courses to clientele who have no opportunity to enter university". The report continues with what surely is an elegant example of combining traditionalism with modern egalitarian requirements: "The fact that junior colleges provide education to women, who do not — in social terms — have admission opportunities equivalent to those of men, is one example."

Thus, in practically all Member countries, the NUS and higher education systems in general have witnessed a dramatic increase in female participation (which presumably means that the overall structure of tertiary education in Member countries has become more egalitarian and allows for a more democratically open access). However, the rates of increase and the specific ratios between the NUS and the university sector in Member countries vary considerably. In the NUS, women tend to be disproportionally over-represented in fields like social work, but study disciplines like engineering to a much lesser extent.

Age and Social Disparities

With the emergence of the NUS, a related phenomenon has been an increase of the average age of students. During the rapid expansion of tertiary education, alternative institutions of higher education in many Member countries adopted as one of their important functions that of providing a second chance to formerly unsuccessful higher education students and to those who never attended in the first place. In addition, greater emphasis on continuing education and lifelong learning has *generally* also contributed to an increase in the average age of students in the NUS. In many cases, NUS students are slightly older than in the university sector. Thus, in the United States, 41 per cent of enrolments in community colleges are students over 25; 15 per cent are over 35. In the United Kingdom, there were nearly twice as many full-time students over 25 in the NUS (the "public sector") than in the universities in 1984-85 (42 000 vs. 25 000) and nearly three times as many part-time students (87 000 and 33 000), though the Open University had almost as many part-time students over 25 enrolled (73 000) as the public sector. In Norway, the proportion of students in the NUS aged more than 30 increased from 12 to 25 per cent between 1974 and 1986, though the same age group in universities has increased by a comparable amount.

The social function of the NUS (together with its contribution to education relevant to economic needs) is also reflected in its commitment to part-time study. (An exception is presented by Germany, where part-time studies do not play a significant role.) The part-time route to higher education is particularly significant in countries like the United Kingdom or Norway, where only a small proportion of the age group enters higher education after completing secondary school. In both these examples, the NUS constitutes the main route for part-time study. In the United Kingdom, there were nearly 220 000 part-time students in advanced further education in 1985-86, compared with 42 000 in the universities (and another 78 000 in the Open University). In Norway, part-time numbers have nearly trebled in a decade, but the increase has been greatest in the NUS, from under 2 000 in 1975 to 11 000 in 1985; for the universities the increase was only from 5 300 to 8 600. In North America with its higher participation rate in higher education, part-time study is of growing importance. In Canada, part-time students in the community colleges outnumber full-time students by between two and three to one. In the United States, four-year universities and colleges are increasingly developing part-time courses and thus acquiring what was once a characteristic only of the NUS.

The improvement of educational opportunity in the NUS is also reflected in the social class composition of the student body in Member countries. Data are limited on this, but those available show that the NUS has a greater share of students from lower socio-economic groups than the university sector. In the Netherlands in 1977, the percentage of students in the NUS from the lower socio-economic group was more than twice that in the universities (although the NUS figure was still only about 7 per cent). In France in 1984-85, the percentage of students classified as having a social origin of "worker" *(ouvrier)* in the *IUTs* was, at 21.6, higher than students in the universities (15.2), particularly those studying medicine (11.0).

The community colleges in the United States have been called "democracy's colleges". They are probably the best-known examples of a multipurpose institution. Their functions in summary are: "Education for work (occupational programmes), education for more education (transfer programmes), and education for the elimination of skill deficiencies (remedial, developmental and literacy programmes)" (OECD country study, United States of America). But the fact that during 1984-85, 54 per cent of all Hispanics and 43 per cent of all Blacks enrolled in higher education were at two-year institutions (compared to 37 per cent of Whites) is conspicuous. Indeed, there are critics who claim that the community colleges are protecting the universities by screening prospective students. In the words of Judith Eaton: "A case can be made that there is tracking in higher education based on wealth and birth that limits the credibility one can associate with the rhetoric of opportunity. There are those who argue that this tracking is intentional and that community colleges are important participants in this phenomenon." (Eaton, 1988).

Although one does not necessarily have to accept this kind of critical argument, at least not in the sense of such processes being guided by purposeful actions, there remains a difficult problem here. In many Member countries a discrepancy appears to exist between the political and social goals of democratisation of higher education and the realisation of such goals in the differentiated systems of higher education. The discrepancy particularly concerns the expectation of equalising life-chances through educational channels. The new sectors of higher education may not have brought that about, since it is doubtful whether the qualifications obtained from most of the institutions of the NUS are really comparable in their economic, financial and status implications to traditional university degrees. This diversion

from original goals of democratising educational opportunities may have been increased by the emergence of other, possibly conflicting, goals, particularly those of meeting the needs of the economy. Thus, this process of structural differentiation which most Member countries have experienced over several decades is only one, although important, step towards the goal of equalising educational and occupational opportunities for everyone.

4. CONTENT AND STRUCTURE OF STUDIES IN THE NUS

Organisation of Teaching and Learning

A general characteristic of the NUS, in contrast to the university sector, is the school-like organisation of teaching and learning which seems to prevail in most Member countries. However, this difference is felt more in countries with university systems which allow fairly far-reaching flexibility in the organisation of teaching and learning (and to some extent also research). Thus, the European university systems, particularly those from Continental Europe, are probably more used to relatively large degrees of freedom for teachers, and even more so for students, in the process of the dissemination and acquisition of knowledge than the universities in North America or New Zealand and Japan. And in those Member countries where university organisation is more liberal, the rather strict curriculum and teaching structures of the NUS are seen as something special, more than in countries like the United States where courses in universities are sometimes also organised in a school-like manner. Most of what is said in the following about the NUS also applies to the "third sector", however on, as it were, a smaller scale. There, the organisational units are less complex than those of the typical NUS institutions like community colleges in North America or the polytechnics in the United Kingdom.

A good example of the above observation is provided by Austria, where a particular NUS programme is described as follows: "Teaching methods are rather similar to those in higher secondary schools: the curriculum does not provide for optional subjects, the students are integrated into forms, the attendance of the lessons is obligatory and there are about 30 hours of lessons per week. There are no seminars, but the types of teaching are traditional lectures and practical training classes." (OECD country study, Austria). While this model is rather extreme, since it hardly contains any of the curricular flexibilities which are usual in most NUS institutions of Member countries, it offers an interesting contrast to the university system in the same country, which in international comparison is relatively lax in its curricular and organisational patterns.

Even if other NUS systems in Member countries are more flexible in their curricular methods, and more inclined to accept standards set by the universities, they are nearly all organised in their teaching and learning in a more school-like manner. This means that the curricula usually follow a clear pattern, that the number of hours which the students are required to attend are usually high, and that examinations must be taken at shorter intervals than in universities. But again, the situation is not homogeneous in Member countries. In several of them, NUIs claim to have more innovative teaching methods. For instance in the United Kingdom, the NUS has pioneered new forms of learning such as independent study

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and modular courses, and in the words of one commentator has been "more adventurous in experiments with the traditional structure of the honours degree" (Scott, 1984) than the universities. In the United States community colleges have been more willing than the univerisities to try instructional innovations like audio-tutorial instruction, computer-assisted language instruction and tape and film (OECD country study, United States of America).

The freedom of non-university institutions to determine curricular content, as well as to develop innovations in teaching methods such as these, also varies according to country. In the Netherlands, there seems to be hardly any difference between the NUS and the university sector in terms of basic course structures. In both sectors, the first stage lasts four years, followed by a second stage of two years. One difference is that there are fewer stage-two courses in the NUS than in the university sector. The capacity to influence the curriculum is similar: "Universities and non-universities are largely autonomous as regards the determination of their curricula..." (OECD country study, the Netherlands). And even with regard to curricular emphases, there seem to be hardly any differences: "... a distinction between universities and HBO cannot be made as regards to a distinction between broad and specialised curricular emphasis". In the United Kingdom, the formal freedom available to the NUS institutions is less than that of the universities, in that NUS courses are validated by national academic validating bodies, notably the Council for National Academic Awards (CNAA). However, in the United Kingdom country report, it is argued that this has promoted innovation in course content and teaching, since the bodies do not generally prescribe content, and have encouraged the development of courses at degree and other levels in disciplines not yet recognised by the universities.

Differing Disciplinary Emphases

In these respects, the Netherlands and the United Kingdom are unique. In most other systems of higher education there is a clear difference between the NUS and the university sector in terms of curricular freedom. A difference is also seen in most countries in terms of curricular emphasis. In Germany, for instance, the *Fachhochschulen* are dominated by engineering, business studies and social sciences (see Table 22). In Norway, the NUS is characterised by a predominance of economics, business administration and other social sciences (altogether 30 per cent), science and technology (20 per cent) and teacher training (25 per cent). In the regional colleges alone, in 1984, 50 per cent studied business courses, 24 per cent were in a science, and 20 per cent in an engineering programme (Table 23).

In the community colleges of the United States and Canada, the situation is in some respects different again. In the United States, for instance, the largest curricular section is "business and management" (26.6 per cent), but this is followed by "liberal studies" (23.4 per cent) which are usually chosen by those who intend to transfer to a four-year college. "Engineering technology" programmes (13.2 per cent) are only in fourth place, with "health science" taking third place with 15.1 per cent. On the other hand, within the Canadian NUS, "business and commerce" as well as "engineering and applied science" are most important not only in the community college sector, but also within the trade and vocational sector (Table 24).

The trend in the United States community colleges, despite the general appearance of diversity, follows the overall development in Member countries. If a vocational and employment orientation, particulary in engineering and business subjects, is a characteristic of non-university institutions almost everywhere, this is also the direction of the community

Table 22. GERMANY: Enrolments, by Field of Study, Type of Institution and by Sex (1975-86)

		Total	*Of which:*								
			Humanities, sports	Law, economics, social sciences	Mathematics, natural sciences	Engineering	Medicine		Veterinary medicine	Agriculture	Fine arts
							Total	*Of which:* Odontology			
						Universities and fine arts schools					
1975	Total	695 548	222 631	145 878	136 078	85 017	53 128	7 291	3 437	14 481	34 898
	Women	250 060	123 058	35 099	44 025	5 474	15 270	1 505	1 198	7 079	18 857
1980	Total	842 207	256 754	188 252	153 752	94 830	78 757	9 582	5 206	21 688	42 593
	Women	323 635	145 001	55 681	52 258	7 784	27 314	2 391	2 262	9 886	23 267
1984	Total	1 022 117	290 804	244 555	187 921	122 452	93 963	11 693	6 342	24 378	51 373
	Women	411 492	171 671	83 139	62 136	12 792	37 599	3 232	3 374	11 190	29 426
1985	Total	1 036 774	289 441	250 050	191 581	125 143	96 293	12 226	6 548	25 226	52 098
	Women	419 642	172 166	86 383	62 465	13 506	39 487	3 564	3 603	11 757	30 052
1986	Total	1 055 231	289 041	258 979	195 901	128 505	97 952	12 572	6 565	25 327	52 719
	Women	428 248	173 376	90 545	63 258	14 250	40 516	3 733	3 734	11 770	30 655
						Fachhochschulen					
1975	Total	142 209	2 743	49 032	3 277	78 280	–	–	–	3 848	8 029
	Women	33 142	1 796	19 330	565	6 202	–	–	–	1 209	4 040
1980	Total	202 003	2 846	83 550	6 281	92 025	–	–	–	6 973	10 328
	Women	59 563	2 042	38 051	1 508	9 492	–	–	–	2 904	5 566
1984	Total	292 084	4 462	108 490	13 311	143 457	–	–	–	9 639	12 725
	Women	84 595	3 529	49 261	2 978	17 342	–	–	–	4 342	7 143
1985	Total	301 268	4 663	109 584	14 399	149 340	–	–	–	10 057	13 225
	Women	87 007	3 638	49 908	3 110	18 190	–	–	–	4 677	7 484
1986	Total	312 468	4 792	113 363	15 839	154 374	–	–	–	10 327	13 683
	Women	90 184	3 752	51 592	3 475	18 744	–	–	–	4 806	7 787
						Total higher education					
1975	Total	840 757	225 374	194 910	139 355	163 297	53 128	7 291	3 437	18 329	42 927
	Women	283 202	124 854	54 429	44 590	11 676	15 270	1 505	1 198	8 288	22 897
1980	Total	1 044 210	259 600	271 802	160 033	186 855	78 757	9 582	5 206	28 661	52 921
	Women	383 198	147 043	93 732	53 766	17 276	27 314	2 391	2 262	12 790	28 833
1984	Total	1 314 201	295 266	353 045	201 232	265 909	93 963	11 693	6 342	34 017	64 098
	Women	496 087	175 200	132 400	65 114	30 134	37 599	3 232	3 374	15 532	36 569
1985	Total	1 338 042	294 104	359 634	205 980	274 483	96 293	12 226	6 548	35 283	65 323
	Women	506 649	175 804	136 291	65 575	31 696	39 487	3 564	3 603	16 434	37 536
1986	Total	1 367 699	293 833	372 342	211 740	282 879	97 952	12 572	6 565	35 654	66 402
	Women	518 432	177 128	142 137	66 733	32 994	40 516	3 733	3 734	16 576	38 442

Source: See Table 4.

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Table 23. **NORWAY: Enrolments in Non-University Institutions, by Field of Study (1974-84)**

Type of education	1974	1978	1982	1983	1984
Regional colleges	3 038	3 971	6 651	7 281	7 113
Humanities, aesthetics	495	870	1 067	1 145	978
Teacher training programmes	320	161	163	186	281
Business administration, social sciences and law	1 237	1 781	3 393	3 788	3 618
Natural sciences, engineering programmes	716	860	1 289	1 316	1 457
Transport and communication	250	268	339	278	347
Fishery programmes	20	31	71	58	73
Sports, youth leaders	. .	. .	18	29	21
Unspecified	–	–	311	481	338
Teacher training colleges	10 308	12 023	13 546	12 813	13 075
Colleges of engineering	6 938	6 199	6 654	6 823	7 353
Colleges of social work	991	1 019	1 140	1 104	990
Colleges of health education	270	356	8 061	8 100	8 006
Military colleges	500	684	666	737	661
Other colleges of higher education	2 934	4 825	10 288	12 167	13 964
Humanities, aesthetics	432	888	1 297	1 276	1 272
Teacher training	204	. .	383	427	456
Business administration, economics, social sciences, journalism	1 929	2 808	7 763	9 256	10 754
Natural sciences and engineering programmes	37	249	494	771	939
Health programmes	332	682	. .	. .	. .
Transport and maritime programmes	. .	. .	215	293	355
Hotel and restaurant education	. .	. .	136	133	188
Other subjects	–	198	–	–	–
Total number of students in NUIs	24 979	29 077	47 006	49 014	51 162

Source: Central Bureau of Statistics: Educational Statistics, Universities and Colleges.

colleges in the United States: "The proportion of liberal arts programmes in the community colleges has changed from 75 per cent of the curriculum in the 1920s to less than 50 per cent in the 1980s." (OECD country study, United States of America).

A similar trend is found in New Zealand, where the largest number of NUS students (Continuing Education) are enrolled in: trades, technician and business courses; to a less extent in transition, computing and health studies (Table 25). It should, however, be pointed out that by far the biggest single category is "Other", which contains a wide range of diverse areas. In this respect, the NUS in New Zealand resembles that in North America.

In Japan, the NUS exists not only to offer courses in fields that are not available in the universities, but also to "provide professional education with a lower level of qualification in identical fields". While this may be as well a major reason for the development of the NUS in other Member countries, there is very little open reference to this potentially controversial issue. In addition, the various segments of the NUS in Japan differ considerably in terms of their curricular emphases (see Tables 26, 27 and 28). While the technical colleges are naturally dominated by engineering-related courses, the junior colleges, although characterised by a very heterogeneous mixture of disciplines similar to the community colleges in North America, are particularly interesting in that "curricula for each category are formed in such a manner that students are able to acquire occupational licenses and certificates, etc., awarded

by governmental or private non-profit organisations in the relevant fields simultaneously with graduation ...". However, in contrast to most European NUS, engineering does not play such a big role in this sector in Japan, partly because national industrial junior colleges were reorganised into night schools at universities. Besides health care, which had the largest increase between 1976 and 1986, the humanities accounted for almost two-thirds of the total number of new junior college students. "This figure reflects the favourable employment situation for women graduating from junior colleges and hired for general clerical work"

Table 24. **CANADA: Graduates from Trade and Vocational Schools and from Colleges, by Field of Study (1982)**

Field of study	TVS	College
Arts	3 626	4 444
Business and commerce	17 646	16 211
Engineering and applied sciences	26 488	13 209
General arts and sciences	460	0
Health sciences and related	3 566	9 855
Humanities and related	0	712
Natural sciences and primary industries	2 536	3 038
Social sciences and services	926	6 492
Unknown	536	0
Total	55 784	54 081

Source: Warren Clark, Margaret Laing and Edith Rechnitzer, *The Class of 82: Summary Report on the Findings of the 1984 National Survey of the Graduates of 1982*, Ottawa, Canada, Minister of Supply and Services, 1986.

Table 25. **NEW ZEALAND: Continuing Education[a] Course Enrolments, by Field of Study (1980-85)**

Field of study	1980			1985		
	Actual number	FTES[b]	FTES %	Actual number	FTES	FTES %
Trades	41 036	5 577	19.69	45 147	6 232	19.18
Technician	15 543	2 653	9.37	17 047	2 842	8.75
Business	21 492	4 566	16.12	19 649	4 049	12.46
Transition	–	–	–	3 810	657	2.02
Computing	559	151	0.53	1 191	340	1.05
Nursing, health	2 360	2 025	7.15	3 966	3 579	11.02
Other[c]	157 857	13 352	47.14	279 649	14 790	45.52
Total	238 847	28 325	100.00	370 459	32 489	100.00

a) Includes polytechnic courses and secondary school evening classes.
b) FTES: Full-Time Equivalent Students.
c) Other courses include a diverse range of short courses and seminars and part-time or block courses not elsewhere included in course categories listed above.
Source: *Education Statistics of New Zealand 1986*, Department of Education, 1987.

(OECD country study, Japan). The "special training schools" (SG) and the "miscellaneous schools" (KG), finally, are more typical, insofar as they concentrate on fields related to industry, including "computer technology", commerce and business practice. The success of the SG can be seen in the fact that many students from universities were also studying in one of those "special schools". Apparently, these SG schools are considered useful "to prepare for certificate examinations... to acquire expert knowledge, practical know-how and techniques" (OECD country study, Japan), functions which, it seems, the universities are only fulfilling to a limited extent. In this respect, i.e. in their practical and vocational orientation, the Japanese SG follows closely the overall curricular trends of the NUS institutions in other Member countries.

The IUTs in France established a clear curricular pattern early in their development, which has changed little since. Thus in 1971, 29 per cent of the students in this sector studied a combination of mathematics and sciences, 45 per cent had taken one of the technical options and 20 per cent specialised in the humanities and social sciences (Cerych and Sabatier, 1986, p. 172). Generally, the practical vocationalism which prevails in the NUS of Member countries seems to be accepted by the students in the French IUTs: "The basic educational objective of a short-cycle technical education with strong links to professional life has been supported by the vast majority of IUT students. While there have been periodic complaints about the school-like atmosphere in the institutes, the evidence suggests that most students want IUTs to resemble small *Grandes Ecoles* rather than traditional universities" (*Ibid.*, p.187).

Finally, to give one more national example, the polytechnics in the United Kingdom are more oriented to the science and engineering subjects than the universities. As is pointed out in the country report, "in 1985-86, there were 1 361 CNAA validated first-degree courses, of which science and technology account for nearly half ...". The overall curricular situation in relation to the universities is summarised as follows: "There are two major discipline areas which distinguish the NUIs from the university sector — business and management, and vocationally-based science and engineering. The former has accounted for increasingly large sections of undergraduate and post-graduate work; the largest number of new CNAA courses in all subject groups over the past ten years has been in science. The number of students on engineering and technology courses and the number in social, administrative and business studies accounted each for a third of total enrolments on advanced courses in 1985-86 in England and Wales, the number in science for another 13 per cent. In universities, engineering and technology students accounted for 13 per cent of full-time enrolments; business and financial studies for 5 per cent, and sciences for 15 per cent. Universities have a higher proportion of students in the arts and medicine."

Generally, business studies and engineering/applied science are of primary curricular importance in most non-university sectors of higher education. In some countries, the emphasis is tempered by a powerful liberal arts tradition, as in the United States; sometimes, as in the United Kingdom, it results from the inclusion in the NUS of the teacher training function, where many former teacher education colleges have diversified into the arts and humanities. Yet even those national NUS or sub-systems of NUS which are disproportionally engaged in general studies or the humanities, like the community colleges in North America or the junior colleges in Japan, generally follow a trend to greater responsiveness in their teaching to the topical needs of the economy, particularly of industries affected by technological change, and other employment areas, like the service sector or commerce, which are subject to radical structural changes in the wake of fundamental economic transformations.

Table 26. **JAPAN: Number of Courses and Number of Students, by Field of Study, in the Junior Colleges (1976-86)**

	Courses			Students				
	1976	1986	Change	1976		1986		Change
				Number	%	Number	%	
Total	1 264	1 365	+101	360 026	100.0	391 078	100.0	+31 052
Humanities	249	281	+32	74 848	20.8	94 857	24.3	+20 009
Social sciences	122	139	+17	37 828	10.5	40 186	10.3	+2 358
General studies	22	28	+6	6 674	1.9	8 993	2.3	+2 319
Science	2	2	0	160	0.0	288	0.0	+128
Engineering	127	93	−34	22 802	6.3	20 719	5.3	−2 083
Agriculture	27	30	+3	4 354	1.2	4 114	1.1	−240
Health care	64	136	+72	11 614	3.2	21 546	5.5	+9 932
Domestic science	319	296	−23	98 440	27.3	102 073	26.1	+3 633
Teacher training	257	272	+15	85 448	23.7	76 708	19.6	−8 740
Fine arts	75	77	+2	17 858	5.0	18 386	4.7	+528
Secretarial courses	0	11	+11	0	–	3 208	0.8	+3 208

Source: *Report on Basic Survey of Schools*, 1976, 1986.

Table 27. **JAPAN: Number of Students, by Field of Study, in the Universities (1976-86)**

	1976		1986		Change
	Number	%	Number	%	
Total	1 702 235	100.0	1 758 635	100.0	+56 400
Humanities	223 462	13.1	253 010	14.4	+29 548
Foreign languages					
Social sciences	707 314	41.6	678 842	38.6	−28 472
Commerce and business practice	3 819	0.2	7 706	0.4	+ 3 887
General studies	51 543	3.0	60 306	3.4	+8 763
Science/Engineering	339 713	20.0	349 579	19.9	+9 866
Agriculture	59 922	3.5	60 792	3.5	+870
Health care	98 253	5.8	118 456	6.7	+20 203
Domestic science	30 488	1.8	32 893	1.9	+2 405
Teacher training	126 259	7.4	136 493	7.8	+10 234
Art	40 588	2.4	45 198	2.6	+4 610
Merchant marine	1 882	0.1	1 552	0.1	−330
Unspecified	18 992	1.1	13 808	0.8	−5 184

Source: *Report on Basic Survey of Schools*, 1976, 1986.

Vocationalism and the Blurring of Institutional Boundaries between Sectors

The process of institutional differentiation has changed the scope of higher education by the emergence of new structural components with a range of new functions. In addition, there are indications that these new, and in some cases still experimental, institutional provisions reflect back on the traditional university sectors, and in turn bring about modifications of those older systems. In the majority of countries the universities have begun to rethink their

Table 28. **JAPAN: Number of Courses and Number of Students, by Field of Study, in the *Senshu Gakko* (1978-86)**

	Number of courses			Students				
	1978	1986	Change	1978		1986		Change
				Number	%	Number	%	
Total	4 267	5 785	+1 518	310 800	100.0	434 489	100.0	+123 689
Industry-related	309	863	+554	53 138	17.1	103 767	23.9	+50 629
Agriculture-related	9	13	+4	388	0.1	494	0.1	+106
Medical treatment-related	733	1 074	+341	73 996	23.8	110 877	25.5	+36 881
Hygiene-related	200	318	+118	19 803	6.4	33 026	7.6	+13 223
Teacher training/social welfare-related	114	145	+31	22 503	7.2	16 302	3.8	−6 201
Commerce and business practice	221	798	+577	22 481	7.2	62 236	14.3	+39 755
Domestic science-related	2 420	1 990	−430	88 689	28.5	49 282	11.3	−39 407
Culture/general studies-related	261	584	+323	29 802	9.6	58 505	13.5	+28 703
Foreign languages	67	153	+86	11 062	3.6	16 142	3.7	+5 080
Fine arts	165	330	+165	16 672	5.4	35 891	8.3	+19 219
Others	29	101	+72	2 068	0.7	6 472	1.5	+4 404

Source: *Report on Basic Survey of Schools*, 1978, 1986.

relationship with the economy and their attitude towards practical and occupational aspects of training. For the United Kingdom, this situation has been summarised as follows: "The demarcation between traditionally academic and vocational courses which previously broadly delineated university and PSHE (Public Sector Higher Education) is becoming fragmented. The skills updating field is an acceptable arena for both university and PSHE within which to operate. Science Parks at Aston and Cambridge University and the Industrial Centre at Salford indicate a willingness not just by PSHE to foster industrial links. Involvement at post-graduate level with the MSC (Manpower Services Commission) extends across the binary line. At a time when both the public and university sector are under financial constraint, industrial links and MSC sponsorship become a prize neither wishes to lose." (OECD country study, United Kingdom).

Thus, at least in some systems, the responsiveness of the university sector to industrial needs, perhaps under the influence of examples given by the NUS, seems to be growing. There are, however, dangers involved in this development which should not be overlooked. This "blurring of the boundaries" between the different sectors of higher education could be detrimental to the basic function of research at universities. As was pointed out with regard to recent developments at the University of Salford in the United Kingdom, "the fact that about half of the research activities in that university are in one way or another channelled by the interests of industry is not in itself objectionable, nor is the increasing personal and financial involvement of many lecturers. But this remains true only as long as we do not functionally distinguish between university and industrial research. And while we may well accept the vital role of industrial research with regard to its specific purposes, this should not obstruct the insight that university research, methodologically as well as with regard to its purposes, is in essential respects different. Time, for instance, as small an indicator as it may seem, is a crucially differentiating aspect of the two ways of pursuing research. Thus we may conclude

here that university research has to stick to its own rationale if it is going to remain functional, which does not, however, preclude the possibility that in some cases it may be more efficient for society to turn some (former) universities into actual research sites of industry." (Gellert, 1985, p. 291).

While in times of financial stringency the universities are possibly torn between a desire to open up new survival strategies by embracing formerly rejected partners, and the fear of destroying fundamental functional prerequisites of their existence, the NUIs apparently have fewer such problems, because their functional orientation to practical and industry-related purposes to a considerable extent determine their success. At the beginning of their institutionalisation, when they were attempting to be more like the traditional university sector than themselves, they ran into difficulties of self-definition and public acceptance. Now that they have finally begun to identify with a functional profile which is unique and needed, they are less burdened by critical self-enquiry.

The Function of Personality Formation

In one area, however, the NUS may well notice deficiencies in the long run, viz. the higher education function of broad personality development or liberal education which has played such an important role in the universities in several Member countries. In the United Kingdom country report the problem has been described in the following: "There is a danger that higher education curriculum is a service curriculum, responding to economic and manpower criteria and 'irrelevant', 'liberalising' subjects are consigned to continuing education."

In the university sectors of many countries, the formation of a "well-rounded personality" has been expected from a combination of a communal life-style and a specific way of transmitting knowledge, be it in the form of interdisciplinary studies as in North America, or the in-depth explorations of a specific subject as in the United Kingdom. With regard to the first aspect, which sometimes is referred to as the "collegiate ideal of education", the NUS is often disadvantaged in comparison to the university sector. Many institutions of the NUS in this respect resemble normal day-schools. The extent of extra-curricular activities is limited, particularly in the non-English-speaking systems. On the other hand, the universities outside the Anglo-American cultural context have had very little of that non-academic tradition of a socialisation function. In Member countries like Germany or France, the professional function has always been dominant. Since this also applied to the NUS, they seem to be in good company. However, it may be argued that deficiencies within university sectors which pay little attention to socialising effects outside the curriculum may also be felt by the NUS in the future.

The second aspect of the function of personality formation, the transmission of knowlege in specific "liberalising" ways, usually referred to as "liberal education", is also primarily a characteristic of the Anglo-American university sectors. Whilst in many countries the NUS institutions are highly specialised, in contrast to the first aspect (of a communal life-style), many NUIs are here in a much better position to gain ground. In many institutions, interdisciplinary and liberal arts concepts are integral components of the curriculum. The multifarious offerings of some institutions in North America, in New Zealand, or in the United Kingdom, sometimes surpass those of the respective university sectors. Nevertheless, there remains the problem in many Member countries that the aims and purposes of the NUS are defined too narrowly in terms of the professional function. The situation can be summarised

as follows: "Non-university institutions constantly face the problem of making compatible vocationalism, education for competence and education for the whole person and of achieving acceptance that this compatibility is possible in a policy environment which stresses the relevance of what is taught in the workplace." (OECD country study, United Kingdom).

5. PATTERNS OF ORGANISATION WITHIN THE NUS

Governance and Institutional Autonomy

The organisational structures of the NUS in OECD countries are so heterogeneous that it is hardly possible to generalise. In practically all respects, from admission requirements for students, the structure of academic staff, recruitment mechanisms (including the necessary qualifications), levels of salary and positions, teaching loads, employment security, research activities, to questions of institutional control and academic freedom, the different non-university sectors vary considerably. What makes the situation even more complicated is the fact that in most cases the national NUS is further differentiated internally in many of these respects. Nevertheless, a few general observations will be attempted.

Government control of organisational matters as well as of curricular development is more directly felt in the NUS than in the university sector. The control of the curriculum is probably the most important area of distinction. For example, the *Fachhochschulen* in Germany, the *IUTs* in France or the polytechnics in New Zealand are not free to choose the kind of courses they would like to offer. Whilst in some countries, like Germany and France, universities may not select their students, the following description of the situation in the United Kingdom can probably be generalised to most other Member countries: "An important way in which the freedom of non-university institutions differs significantly from that of the universities is the validation of courses. Universities create their own courses, select and examine their own students and award their own qualifications. Institutions in the non-university sector, with exceptions, do not do so. Most qualifications awarded in the public sector are those of national validating bodies ..." (OECD country study, United Kingdom).

There are similar differences between the sectors in terms of internal governance. Since there is no absolute relationship between institutional autonomy and organisational democracy, most autonomous NUS institutions also have participative internal structures of governance. In most university sectors, the traditional pattern of academic councils or senates continues, and variants of this model are found in the more independent public sector institutions like the polytechnics in the United Kingdom. Under the provisions of the Education Reform Act of 1988, polytechnics and major colleges of higher education in the United Kingdom have been established as self-governing, statutory corporations with boards of governors responsible for the strategic management of the institutions, and directors acting as chief executives. This puts the boards of governors on a similar footing to university councils.

In most Member countries, universities, in contrast to many NUS institutions, are constitutionally embedded, chartered corporations with almost universal rights of

self-recruitment and self-management. There are however differences between countries with regard to the actual degree of independence of the universities from state control. While for instance the universities in the United Kingdom, despite measures taken in recent years to ensure a greater degree of planning and financial accountability, are still to a large extent free to manage their own affairs, the university sector in Germany has always been directly accountable to the respective *Länder* ministries (Gellert, 1984).

Most "third sector" institutions, as private corporations, are also self-governing. The special training schools (SG) in Japan or the private community colleges in North America, are in many respects more diversified and independent than universities, and if they are profit-making institutions they are, of course, run like other economic enterprises. Generally, these privately-run institutions tend to be characterised by hierarchical authority structures with strong administrations and little influence of the teaching staff.

The borderline in terms of differing degrees of academic self-governance is, however, not always that of NUS/university sector distinction. There are mixed systems in that respect. In Japan, for example, all professors in universities and junior colleges (the latter being part of the NUS) are members of "faculty councils" which decide on all academic and organisational matters, while the other two segments of the NUS (SG and technical colleges) do not have such councils. Here, professional administrators are primarily responsible for the running of college affairs. In those institutions of the NUS where academics have little influence on the administration of their colleges, this is often the reason for dissatisfaction and conflict. The amount of participation is for example fairly low in the American community colleges, which is a source of considerable discontent: "...greatest dissatisfaction is from lack of control of the conditions of their work, especially the kinds of students they must try to teach." (OECD country study, United States of America). Thus, Eaton has described the problem in American community colleges as follows: "Many community-college presidents and senior officers lack any background in quality general education or in any academic discipline. Rightly or wrongly, this can produce a significiant cognitive gap between faculty and administrators that undermines the intellectual vitality of the institution, and lack of regard from the other sectors of higher education." *(Ibid.)*

Tendencies towards Deregulation

While the description above applies to most European systems (where the validating body is the relevant ministry) and to North America with its variety or college-accrediting bodies, these distinctions in academic autonomy between sectors of higher education are diminishing in some countries. The constitutional changes for NUS institutions in the United Kingdom are being accompanied by a move towards "accreditation" of the major public sector colleges and polytechnics by the Council for National Academic Awards, so that the institutions will be free of most of the constraints of external validation. In the Netherlands, too, the detailed legal prescriptions on course content are being reviewed.

In those systems of higher education which display a dual structure with the university sector on the one hand and one major component of the NUS on the other, like in the United Kingdom, New Zealand or Germany, the overall trend points towards a kind of convergence of the two sectors. Thus in Germany the *Fachhochschulen* have been recognised as public corporations with extended rights of self-regulation since the Federal Framework Act of Higher Education of 1976. The polytechnics in the United Kingdom are going in a similar direction, as the government proposals of the White Paper of 1987 are implemented. In

Norway, a royal commission has proposed a more extended delegation of responsibility to the boards and colleges.

These changes do not always mean that non-university institutions are becoming freer in all respects. Central control is often exercised in other ways, particularly through financing mechanisms (discussed in more detail in Section 6). What often happens is that institutions have greater freedom in how to spend the monies allocated to them as they attain constitutional independence (for instance, through increased freedom of validating their own courses); but increasingly, they have to do this in the face of overall direction of the funds from their governments (at present, often favouring science and engineering subjects). This phenomenon is sometimes also experienced by the universities. In other words, greater administrative independence at the level of internal control is often accompanied by increased guidance from governments with regard to broad policy directions.

In countries like the Netherlands, where the NUS is being given increasing autonomy, new structures of internal governance are developing, though there are wide variations between institutions as the new law imposes few requirements. In both the Netherlands and the United Kingdom, the tension between the participative or collegiate university model of governance and a more "executive" style is evident in the changes currently taking place. The new legal requirements on their governance prescribe structures that exhibit characteristics of both models. This tension is visible, too, in Canada. Here, the community colleges "are still struggling to develop an organisational model that best exemplifies their philosophy and mission" (OECD country study, Canada) and most have a hierarchical structure, but with some element of collegiality, usually in the form of an academic council composed of students, instructors and administrators, empowered to approve or make recommendations on all academic matters.

Admission Requirements

Admission requirements in the NUS also differ to a large extent from those in the university sector. Generally, the average qualifications of new entrants into the NUS are lower than those expected from university freshmen. Thus, in the United States usually "a high school diploma is all that is required; no particular grade average for high school courses is required, nor do most [community colleges] require either the SAT or ACT examination, except perhaps for placement purposes" (OECD country study, United States), i.e. for entry into particular courses. For non-degree programmes, most two-year colleges will accept anybody beyond high school age. Japan also has a fairly open structure of access to higher education, since, as was pointed out before, about 90 per cent of those in the respective age group finish high school, and more than 50 per cent of these enter higher education. But entry to the different kinds of universities and NUS institutions depends on individual high school results.

Generally, in systems of higher education with a wide diversity of institutions as in North America, the qualification barriers to entry are less rigid than in less diversified systems. This is only partly due to regulations passed by the higher education institutions themselves. To a considerable extent national education systems contribute to processes of early selection which often cannot be compensated for by colleges and universities. Thus, in some Member countries only about one-quarter of the relevant age groups finish with secondary qualifications necessary for entering the tertiary sector. At the same time, some of the NUS institutions maintain fairly rigid entrance requirements. For example, the German

Fachhochschulen require the *Abitur* or the *Fachhochschulreife* (a qualification taken at special secondary schools, which does not provide access to universities). Other means of gaining access hardly exist. And an early OECD study has revealed that almost all students of the *IUTs* had the *baccalauréat*. Only about 4 per cent entered through special exams (see Cerych and Sabatier, 1986, p. 172).

Occasionally, if certain subjects are overcrowded, individual institutions attempt new methods of selection. For instance, in the Netherlands, sometimes "candidates are selected by means of a weighted lottery system. The higher their average mark in the secondary school-leaving examination, the better their chances of success in the lottery." (OECD country study, the Netherlands). In Norway, the regional colleges can admit between 10 and 20 per cent of the students on the basis of documented evidence of competency other than exams from upper secondary schools. In the United Kingdom too, the NUS facilitates the access of adults and students without school-leaving qualifications, a tradition that the selective universities hardly possessed, though they are slowly changing in this regard. Austria is an example of the practice of several Continental European countries where "entrance requirements to universities which range highest in status ... are less restrictive than those to NUS". There, all NUS institutions, in contrast to the university sector, "may refuse students for reasons of a limited number of places available or may regulate entrants numbers through entrance examinations." (OECD country study, Austria).

Teaching Staff

While there are clear distinctions in OECD countries between different entrance requirements of the university sector and the NUS, and between segments of the NUS, the faculty in the NUS also show specific and often varied characteristics. First of all, the NUS in most Member countries has a larger proportion of part-time teachers than the universities. In the community colleges of the United States and Canada, the percentage of part-time faculty reaches more than 50 per cent. In Japan, the special training schools (SG) have more than three-quarters of their teaching staff as part-time faculty (Table 29). In dual systems with comparatively formalized structures like Germany, the number of part-time personnel is relatively small, but still is higher than in the university sector. In Germany, for instance, about 10 per cent of the teaching at *Fachhochschulen* is done by outsiders on a contract basis (OECD country study, Federal Republic of Germany).

The qualifications necessary to teach at institutions of the NUS are different in most Member countries from those in the university sector. In many cases, like in the French *IUTs*, teaching staff are drawn not only from the universities, but also from professional life. To qualify for a professorship in the main NUS segment in Germany (the *Fachhochschulen*), candidates have to have five years of professional work experience. In terms of formal qualifications, they must usually have Ph.Ds, but in some engineering fields this is not necessary. In North American community colleges, many faculty members have only M.As. Those with Ph.Ds (about a quarter in the liberal arts fields) are often regarded as "over-educated" (see Clark, 1987*a*, p. 33). In Canada, instructional staff are usually recruited directly from employment in their speciality; three to five years experience is a common requirement. The following account of the situation in the United Kingdom gives an idea of the complexities involved in personnel structures in the NUS: "Universities have fewer women staff than polytechnics or further education generally (12 per cent compared with 24 and 20 per cent); 32 per cent of university staff had an Oxbridge connection compared

Table 29. **JAPAN: Full-time and Part-time Teachers, and Rate of Full-time to Total Teachers, by Type of Institution (1986)**

	Universities			Junior colleges		
	FTT	PTT	Rate %	FTT	PTT	Rate %
Total	113 877	78 856	59.1	18 205	28 375	39.1
National	51 752	23 478	68.8	1 173	2 728	30.1
Public	6 132	4 022	60.4	1 898	1 869	50.4
Private	55 993	51 356	52.2	15 134	23 303	39.4
	Technical colleges			SG		
	FTT	PTT	Rate %	FTT	PTT	Rate %
Total	3 797	2 078	64.6	19 851	68 030	22.6
National	3 261	1 885	63.4	673	10 914	5.8
Public	345	152	69.4	1 595	11 165	12.5
Private	191	41	82.3	17 583	45 951	27.7

Source: Report on Basic Research of Schools, 1986.

Table 30. **JAPAN: Number of Hours Taught by a Teacher per Week, by Type of Institution**

	University	Junior college	Technical college	SG
National	9.3	8.0	13.3	7.8
Local	9.4	7.9	15.1	14.8
Private	8.6	8.5	17.1	14.9
Total	8.9	8.4	13.6	14.6

Source: Report on Statistical Survey of School Teachers, 1983.

with 10 per cent in polytechnics; more entered their jobs direct from university, more are middle-class and went to prestigious schools. It has been common though not universal practice in the public sector to recruit staff with some professional experience; there are thus differences in age profiles and qualifications of staff... Staff in universities have higher academic qualifications. There is virtually no recruitment to higher university grades from outside the education system. In further education, this is not uncommon." (OECD country study, United Kingdom).

One important way in which the sectors differ in most Member countries is that teaching loads for faculty in the NUS are usually higher than in the university sector. In Germany, for instance, professors at the *Fachhochschulen* have to teach 18 hours per week; at universities it is only 8 hours. In Japan, the NUS is again split. While teachers in the technical colleges and in the SG have to teach about 14 hours per week, those in junior colleges only teach about 8 hours. This is even less than the teaching load of professors at universities (Table 30). In the United Kingdom, the teaching load in the NUS is also heavier than in the university sector. While faculties in the latter spend 37 per cent of their time on teaching, the percentage at polytechnics is 53. In the Netherlands where the NUS has been freed of some of its

Table 31. **JAPAN: Student/Teacher Ratio, by Type of Post-Secondary Institution (1972-86)**

	Universities	Junior colleges	Technical colleges	SG	KG
1972	18.0	19.4	13.6	–	26.7
1974	18.3	21.5	13.3	–	26.6
1976	18.7	23.1	12.7	20.1	28.5
1978	18.4	23.7	12.5	22.8	28.0
1980	16.9	22.7	12.5	21.8	27.4
1982	16.0	22.2	12.5	21.1	26.1
1984	15.7	21.9	12.6	22.1	25.5
1986	15.4	21.9	13.0	21.9	22.9

Source: See Table 30.

Table 32. **JAPAN: Average Monthly Salaries of Full-time Faculty, by Type of Institution**
In thousand yen

	University	Junior college	Technical college	SG
National	299.3	294.2	296.7	228.1
Local	302.4	297.7	321.3	213.2
Private	325.4	268.2	285.3	173.2
Total	313.0	272.9	298.4	178.0

Source: *Report on Statistical Survey of School Teachers*, 1983.

traditional constraints by changes in the law, the former method of appointing staff according to teaching hours (normally 29 per week) is giving way to a more flexible arrangement.

Despite the generally higher teaching loads, teaching staff within the NUS are paid less on average than university teachers in most Member countries (Table 32). In some countries, for example the United Kingdom, salary differentials are reinforced by different staffing structures, with fewer senior posts available in the NUS than the university sector. In the Netherlands, too, whilst all faculty in publicly-financed institutions have the status of civil servant, and salaries for some grades are the same in both sectors, those for higher grades and the range of senior posts available are lower in the NUS than the universities. In some systems, however, efforts are being made to avoid this discrepancy, as in Norway where "salaries are the same in all universities, and in most NUIs". In Canada, too, salaries and fringe benefits in the community colleges must be competitive with those elsewhere in the public sector (including universities) (OECD country study, Canada).

Job security is also a distinguishing characteristic between sectors. While in practically all Member countries the majority of university faculty enjoy tenure, this often does not apply to teachers in the NUS. Again there are exceptions. In Germany, for example, professors at *Fachhochschulen* are civil servants just as in universities. This civil service status seems to provide a better protection against governmental policies aiming at reducing costs at universities than the tenure system in other countries. In the United Kingdom recent political measures aim at the abolition of tenure. This may have serious consequences for matters such as academic freedom (see Gellert, 1985), although the United Kingdom country report

maintains that teachers at the NUS have not been significantly affected by the lack of tenure in their "capacity to publish or teach what they think fit within the law".

It seems to be a universal characteristic that teaching staff in the NUS are less engaged in research than in the university sectors. This is due to a large extent to the heavier teaching loads. But it also has to do with the different functions of the sectors. NUS faculty are expected to engage in practical and vocational teaching rather than theoretical or basic research. In the past this has created friction within the NUS, insofar as phenomena like "academic drift" occurred, and the NUS institutions, in search of their own identity, were often tempted to copy the academic paradigms of the university sector. In recent years, this has been substituted by a more self-confident definition of the role of the NUS. As a consequence, not only is the relevance of practical and industry-related curricula now generally accepted, research activities have also developed their specific profile, usually directed towards practical, often technological tasks. This, in turn, has improved the research situation in the NUS, not only in terms of output, but also in increased public acceptance and policy changes which improve the financial and organisational conditions for such enterprises. In Germany for example, the law has recently been changed to enable NUS professors to apply for external research funds. More co-operation with industry, centres for technology transfer, etc., are results of these developments. In the Netherlands, the recent legal changes which allow higher vocational institutes (HBO) to undertake research have facilitated the development of contract research with clients such as small and medium-sized firms. In the United Kingdom, the polytechnics have a tradition of links with industry through research and consultancy which is increasingly developing through mechanisms such as the establishment of science parks, following the pattern of the universities.

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6. FINANCING OF THE NUS

Overall Patterns of Funding

Funding of the NUS in Member countries depends to a large extent on whether institutions are under private or public control. Since a large proportion of the NUS in many countries is run and organised by national governments, most of the financial support is provided by public authorities. In federally-organised nations, the province or state is normally responsible for funding NUS institutions, though an element of dual funding usually exists. In the United States, state funds account for almost half the revenue of community colleges, whilst federal funds make up for less than 10 per cent (OECD country study, United States of America). In some states, local property taxes also contribute to community college resources, but this varies from less than 4 per cent to approaching 30 per cent of the total. Support from local funds has been declining from about 43 per cent in 1958 to 20 per cent by 1979. In Canada, provincial governments provide between 75 and 90 per cent of overall support, though the provinces receive unhypothecated federal grants which subsidise their spending. In both countries, tuition fees are a further source of income. In the United States, community college income from tuition averages 17 per cent, but ranges from 2 to 34 per cent depending on the state. In Canada, tuition fees range from zero to $1 000 — considerably less than fees at Canadian universities. In Germany, too, the *Länder* (states) have overall authority in education and are thus also responsible for the finance of NUS institutions.

In the Netherlands, more than 90 per cent of the funds of higher education are directly supplied by the central government. In contrast to the university sector, however, which receives a lump sum, regardless of the number of students, the HVIs have a so-called "exogenous" system of financing. "Any increase (or decrease) in the number of students has a direct impact on the amount of funds for the system as a whole." (OECD country study, the Netherlands) In Norway, also, the universities and most other institutions of higher education are financed by government grants. The government's view, as in several other Member countries, is that higher education should be publicly run and free of charge. Besides direct government grants, the allocation of research funds through research councils has played an increasing role in recent years. And, finally, the sponsoring of research projects by external, private enterprises and public agencies has become more frequent.

In France and New Zealand, too, funding of the NUS is predominantly in the hands of the respective governments, while Austria has a mixed form. Here "the post-secondary sector is uniform in regard to neither legal regulations, nor in its organisation, financing and administration. There are public and private "academies" [for social work or teacher training] and medico-technical schools." (OECD country study, Austria). In the United Kingdom, major changes in institutional control and financing have taken place. Recent government policies involve removing most non-university higher education from the traditional responsibility of local authorities in the "public sector" to central control under the Polytechnics and Colleges Funding Council.

By contrast, a large segment of higher education in Japan is supported by private funds; 72 per cent of the universities, 84 per cent of junior colleges, 88 per cent of special training schools (SG) and 97 per cent of the miscellaneous schools (KG) are private.

In some countries, a major source of funding of the tertiary education system, including the NUS, is tuition and other fees. Even in countries where tuition fees are a significant source of income, these may be subsidised from public funds. In the United States, for example, state and federal schemes provide assistance for tuition for students with low incomes and these tend to be found in the community colleges. Thus, 45 per cent of students in the 668 institutions in the Association of Independent Colleges and Universities received such federal support, and a further 45 per cent received loans. The United Kingdom has a comprehensive scheme of support for students on full-time degree and equivalent courses, for which most NUS students are eligible on terms comparable with university students, though certain courses in the NUS do not qualify automatically for the scheme, neither do part-time courses. In other countries, such as Norway, loans at favourable rates are available for most students, and the poorer students are also entitled to grants.

Towards a New Entrepreneurialism

In addition to public support and income from tuition fees, NUS institutions in many Member countries also rely on more "entrepreneurial" income. The extent of this varies considerably according to the country, but in several countries this aspect of income generation has become increasingly important as public funding has been constrained. In Canada, the community colleges gain income for contract training, which may generate as much as $1 million per year in the larger colleges. The contracts may be with a provincial government, the federal government, private industry or associations and organisations. In some colleges, a further recent development has been the emergence of "fund-raising arms", sometimes in the form of "separate corporations for the sole purpose of increasing private sector financial support" (OECD country study, Canada). A similar pattern exists in community colleges in the United States, although start-up costs for "customised" courses for employers may be supported by public funds when the authorities believe them to be justified.

If these aspects of financing of the community colleges in North America signal an entrepreneurial outlook, this view is rather alien to most European NUIs (and indeed to European universities). The traditional situation in these countries was for NUS institutions to be almost wholly publicly funded as seen above. But the situation is changing. The United Kingdom is perhaps the European country where reliance on public funding is being most radically challenged. Government policy here is for both sectors of higher education to become more "market oriented" and to increase their income from industry and other private sources. In the NUS, this has resulted in growth of "full-cost" courses for employers, increases in recruitment of overseas students (who pay full-cost fees) and increased contract research and consultancy activities for industry. In other countries, such as the Netherlands, there is also an increase in the sponsoring of research projects in the NUS by external private enterprises as well as public agencies.

The funding of NUS institutions has implications for levels of spending. In most Member countries, expenditure per student in the NUS is, as a matter of policy, lower than on university students, although some technical training institutions, such as the Japanese technical colleges, have higher expenditures per student (Table 33). In the United States, "in 1986, costs per FTE [full-time equivalent] student in public institutions were $10 010 for

Table 33. **JAPAN: Expenditure per Student, by Type of Post-secondary Institution (1971-85)**

In thousand yen

	Universities	Junior colleges	Technical colleges	SG	KG
1971	788	520	1 008	–	190
1973	874	604	1 122	–	214
1975	866	602	1 187	–	223
1977	907	635	1 289	385	238
1979	1 185	685	1 405	447	262
1981	1 137	759	1 328	474	269
1983	1 346	804	1 238	554	337
1985	1 433	971	1 254	636	385

Source: Report on School Basic Survey.

doctoral-granting institutions, $5 736 at comprehensive universities, $4 318 at general baccalaureate colleges, and $3 984 at two-year colleges" (OECD country study, United States of America). The main reasons for this are that full professors are paid less than senior faculty at universities, and that teaching loads are much higher at two-year colleges. In the United Kingdom, the expenditure per full-time equivalent university student was over £5 200 (at 1984-85 prices) compared with £3 000 for an FTE student in advanced further education. Moreover, the NUS has seen a relative decline in its spending per student. The unit funding of an "arts equivalent student" in the polytechnics and other local authority colleges declined by about 25 per cent compared to 3 per cent in universities between 1980-81 and 1986-87 (Table 34).

Table 34. **UNITED KINGDOM: Current Institutional Expenditure (in £) per Full-time Student Equivalent (1981-82 to 1984-85)**

	1981-82	1982-83	1983-84	1984-85
Advanced further education				
Outturn	2 720	2 875	3 010	3 000
Real terms	3 170	3 130	3 135	3 000
Polytechnics				
Outturn	3 050	3 090	2 975	3 015
Real terms	3 565	3 365	3 100	3 015
Universities				
Outturn	4 285	4 550	4 905	5 210
Real terms	4 985	4 970	5 130	5 210

Source: Statistics of Education Finance and Awards.

Funding as a Steering Mechanism

The public authorities in some Member countries use financing mechanisms to control not only levels of funding in the NUS, but also the direction of the institutions' activities. In some countries, like Canada, this kind of direction is exercised through specific contract arrangements. In others, funds are allocated to NUS institutions according to formulae or based on enrolments in particular disciplines. In the United Kingdom, for example, advisory bodies were established in 1982 to advise on the allocation of funds to the public sector institutions in England and Wales. The allocations were based on target student numbers in the different disciplines, and the major planning exercises were conducted to redistribute student places between institutions and disciplines. In the United Kingdom also, NUS (as well as the universities) have increasingly received funding from the Manpower Services Commission (since 1988 the Training Agency), an agency of the Department of Employment which promotes particular initiatives according to its perceptions of market and employment needs.

Whilst the British experience has thus been one of increased central control, the trend in several other European countries is towards more autonomy for NUS institutions as their contribution and maturity are recognised. In the Netherlands, the higher vocational institutions (HBO) are now under a funding system similar to that of the universities, with considerably greater freedom to allocate their own budgets. In Norway, too, the NUS colleges are benefitting from a gradual reduction in directives from government on budgetary matters (OECD country study, Norway). And in Germany, professors at *Fachhochschulen* are about to enjoy similar privileges as university teachers in terms of being able to utilise outside research funds, etc.

7. EMPLOYMENT OF GRADUATES

Overall Employment Prospects

Overall, the country studies reflect a favourable situation in terms of the employment of NUS graduates. There seems to be general agreement that, in times of job market problems, those with degrees or other qualifications from tertiary institutions outside the university sector often find it easier to get employed than those who graduate from universities. However, this depends to a large extent on the subject areas in question, and also has to be qualified with regard to entry levels in the labour market and salary differentials. Nevertheless, the employment prospects for those who have studied in NUS institutions appear to be good, and several reasons may have contributed to this development. Two seem to have been significant.

First, and most importantly, the economies of the advanced industralised nations have been undergoing fundamental structural transformation, primarily because of rapid technological changes which have affected industrial production, but also because of far-reaching shifts in employment patterns with disproportional expansion of the service sector. Because of these changes, demand for highly-qualified manpower for all levels of industry, commerce, service institutions and public administration increased in most Member countries. This demand, it was generally felt, could not be met in sufficient numbers or in terms of specific qualifications by the traditional university sectors. The evidence from most countries suggests that the NUS has been more flexible in responding to these demands than the university sectors, developing new programmes and courses in areas of demand and offering more vocationally-directed higher education.

Second, the newly-established alternatives to universities are not burdened to the same extent with traditional functions of societal status distribution, i.e. processes of occupational allocation are not so loaded with selection mechanisms reproducing class or stratification systems. Rather, the differentiated systems of higher education are a reflection of more open and differentiated social structures in societies at large. But this does not mean that social differentiation does not affect the NUS. The "screening" function that the education system appears to serve is visible in many Member countries and also affects the employment prospects of graduates from the NUS. In some cases, like the United Kingdom, employers tend to favour university graduates for comparable jobs, selecting on the basis of the status of the institution. This, however, primarily applies to traditional top-level positions. In most countries, jobs taken by NUS graduates often tend to be on medium occupational levels and NUS graduates are more often prepared to accept a lower salary than university graduates when they enter employment, making it easier for employers to offer jobs. In Japan, for instance, the average salary for new employees who graduated from junior colleges or technical colleges is about 10 per cent below that of newly employed university graduates (see Table 35). It may be because of these somewhat lower or more specifically,

Table 35. **JAPAN: Average Initial Monthly Salary of Recent Graduates from Technical Colleges and Junior Colleges, by Sex, as a Percentage of that of Recent University Graduates (1970 to 1987)**

In yen

	TC Grad.	Index	JC Grad.	Index (male)	JC Grad.	Index (female)
1970	36 433	92.3	34 580	87.6	32 540	82.5
1975	83 323	91.9	81 567	90.0	77 336	85.3
1980	105 230	90.9	105 514	91.1	99 426	85.9
1985	128 586	91.0	126 814	89.7	120 463	85.2
1987	134 930	90.1	132 230	88.3	127 426	85.1

Source: Country study, Japan.

vocationally-oriented expectations from both NUS graduates as well as employers, that there is more flexibility on the labour market for those from NUS institutions than for university graduates who often have unrealistically high expectations of occupational status and income.

These features occur, of course, to differing extents in different countries. Thus, in Germany, the employment chances of NUS graduates are regarded as positive by industrial associations and other employment organisations. For New Zealand, the following conclusion has been reached: "New Zealand's labour market is subject to high-level skills shortages in high-technology and market services industries. Therefore, polytechnic full-time course graduates do not have employment problems. Part-time vocational course students, most of whom are in employment, gain added career opportunities as a result of their qualifications." (OECD country study, New Zealand). In Norway, there does not seem to exist an employment problem for any of the higher education graduates. Indeed, "In a number of fields, such as electronic engineering, health services, economy and teaching, there is even an obvious shortage of qualified people." (OECD country study, Norway).

In Japan, as in other areas, there is a difference within the NUS itself. Graduates from the special training schools (SG) with their curricular emphasis on computer engineering and data-processing "find employment very easily, fulfilling the needs of employers at various levels". In the junior colleges "a mismatch between their courses and the needs of business and industry is beginning to be seen." (OECD country study, Japan).

In Canada the employment situation does not follow a clear pattern. As in Japan, the dividing line goes through the NUS itself. "Trade/vocational graduates were more likely to be unemployed than graduates with a college diploma or bachelor's degree." (OECD country study, Canada). The situation of the community colleges in North America is generally difficult to assess. In the United States, statistics on the employment of graduates are limited. What seems to be clear is that the risk of unemployment decreases as the level of education increases, suggesting that community college students typically obtaining below-level degree qualifications are disadvantaged by comparison with university graduates. But this phenomenon applies to all qualification levels in society, and not just to higher education.

In the United Kingdom, the rate of unemployment among polytechnic graduates (10.8 per cent) was larger than that of university graduates (6.9 per cent) in 1985-86. On the other hand, more graduates from the NUS found permanent employment than those from the university sector (60.9 per cent versus 55.2 per cent). The United Kingdom country report

draws the attention to the following additional aspect: "It must be borne in mind too that surveys of first destination of graduates are taken within six months of graduation. A long-term study ... has uncovered a significant drop in unemployment amongst non-university graduates to 4 per cent after three years of graduation". In the United Kingdom, too, graduates from sandwich courses (nearly all in the NUS) not only tend to find employment quicker than university graduates, but also stay with their firms longer, and earn significantly higher salaries.

Table 36. **THE NETHERLANDS: Graduate Unemployment, by Type of Education (1985)**

	Unemployment as % of supply
Total labour force	13.2
Higher vocation education	
Technical/engineers	3.1
Economics	4.8
Services	8.7
Total	6.8
Universities	
Technical/engineers	6.4
Economics	4.0
Services	8.4
Total	5.8

Source: Country study, Netherlands.

Disciplinary Distinctions

While the employment situation of graduates from the NUS in most Member countries can be considered as favourable, there are usually clear distinctions with regard to subject areas. In the Netherlands for instance, the unemployment of NUS graduates is slightly higher than that of university graduates. But within the NUS (higher vocational institutions), unemployment in technical/engineering fields is a third of that in the service sector (see Table 36). In some countries, for instance Austria, it is thought to be difficult to compare the employment chances for graduates from different higher education sectors, because the university graduates are a very heterogeneous group, whereas the graduates from the academies are trained for very specific purposes. But "in general, it is supposed that it is easier for them [the NUS graduates] than for university graduates to enter the labour market." (OECD country study, Austria). In Germany graduates from *Fachhochschulen* in business and engineering subjects have fewer problems on the labour market than graduates in social work. And in the United Kingdom, where the polytechnics cover a much broader disciplinary area than the NUS in Germany, the employment chances in differing fields are particularly revealing. The least problems were encountered by graduates in pharmacy, accountancy,

education, mathematics and computing, electrical and electronic engineering, and business and management studies. Fairly big problems were, however, experienced by graduates in the humanities.

In conclusion, the labour market prospects for NUS graduates are considered to be positive in most OECD countries, in some cases better than the chances for university graduates. There are however important qualifications to be added. First, there are considerable differences, on the one hand, within the respective NUIs of some countries, and between specific subject areas, on the other. The best employment opportunities are for graduates of subjects which have high priority for industry, such as engineering, computer sciences, business and management studies; NUS graduates fare as well as, or even better than, university graduates in these areas. In less occupation-specific subjects, such as the arts or humanities, the status of the institution is significant; here, university graduates usually find it easier to get employment. Second, some of the success of NUS graduates on the labour market can be explained by the fact that people with such qualifications are more often prepared to accept lower occupational positions and smaller salaries than university graduates.

8. THE PERFORMANCE OF THE NUS IN A GLOBAL SOCIO-ECONOMIC PERSPECTIVE

The Improvement of Educational Opportunities

With the emergence of the NUS institutions, traditional systems of higher education have been decisively differentiated, establishing a variety of alternatives to the university sector. One of the most important reasons for the creation of alternative institutions in OECD countries was the general societal and political desire to improve educational opportunities for larger segments of the population and to facilitate, not least by opening new routes to higher educational qualifications, a democratisation of the overall field of education and training. As is amply documented in national surveys (as well as in the country reports of the participating OECD countries), in many respects these policies were successful. The proportion of young people participating in higher education has increased enormously over the last two or three decades; and this process of expansion has considerably increased the percentage of women in higher education.

Institutions of the NUS have had a strong share in these developments in recent years. In many countries they have had the highest expansion rates within tertiary education. In countries where traditional class boundaries still have a strong impact on educational participation rates, the improved educational opportunities have been to the advantage of the lower strata of society. In the United Kingdom the polytechnics recruit a higher proportion of working-class students (about 40 per cent on full-time courses) than the universities (about 28 per cent). As pointed out in the country report: "The public sector offers the route for working-class students to enter higher education, particularly through part-time courses". There are similar differentials in France and even in the less socially-stratified Netherlands (see Section 3).

In many NUS institutions, part-time study plays a major role in offering "second chances" for those who missed or dropped out of the normal educational channels at an earlier point in their lives. This was also made possible by facilitating entry for adults without formal qualifications. In this respect, there are considerable differences between Member countries. While the above observation applies to systems like those of the United Kingdom, New Zealand, Japan or North America, some more formalized higher education systems like in Germany or France still display fairly standardized access requirements.

Where transfer opportunities for students from one sector to another are possible, they are usually achieved at a certain cost. In some cases they may involve a penalty of time, in others considerable financial cost. For instance, the transfer from the NUS to the university sector in the United States in certain cases can be very expensive. This fact is sometimes criticised by some European observers. It may indeed be argued that systems of higher education like those of Germany or Austria, despite their being comparatively selective and restrictive with regard to transfer from the NUS to the university sector, offer higher education

free of charge and are therefore more egalitarian than the United States system. This argument however is difficult to maintain. A selective education system with rigid transfer barriers favours those who are better off in society, even if higher education itself is free, since the chances to get there for those who come from a lower-income background are limited in the first place. This dilemma has, at least in the case of Germany, been reinforced in recent years by political measures which have made it more difficult for children from poorer families to complete even the upper-secondary school level (see Gellert, 1984 and 1989). In many countries the problem of educational opportunity starts much earlier, with selective school systems forcing young adolescents to decide which way they are to go.

Equality and Excellence

It has often been argued that the functions of improving accessibility and equity, whilst maintaining high standards of professional training in higher education in times of resource constraints, are to some extent incompatible. As far as the NUIs in Member countries are concerned, there is little evidence to support this claim. On the one hand, it is one of the specific characteristics of many institutions of the NUS (for example the community colleges in North America) that they are trying to develop differentiated profiles and programmes which offer distinct levels of learning and qualifications often not meant to meet the academic standards of traditional degree-awarding institutions. The additional function of lifelong learning or continuing education, which is a specific characteristic of many NUS institutions in Member countries, deserves particular mention in this context. Here also, the task of remedial education which plays such a prominent role in the community colleges of the United States in particular, has to be referred to. This aspect of attempting to correct basic deficiencies (like the inability to read and write) has been criticised as a kind of "secondarisation" of the first years of higher education. Others would argue that this function has to be accepted if the notion of functional differentiation in higher education is taken seriously.

On the other hand, there is evidence of success in attempts to reconcile high academic standards with open access. Thus in the United Kingdom country report, it is claimed that, "given comparability of standards of degrees, the public sector is actually more efficient than the universities in terms of 'educational value added' in achieving degree standard with students who on entrance to courses are academically at a disadvantage".

As noted earlier, the NUS institutions in most OECD countries are more inclined and better able to take into account community and regional expectations and needs than the university sector. This has partly to do with differences in size and organisation, which make the NUS institutions more flexible in their curricular planning than the universities. Partly it is due to the different aims and purposes being pursued, in the sense that the NUS is explicity concerned with practical, industry and community-related problems and expectations. There are many practical consequences of this functional outlook. In many Member countries NUS institutions are thus involved in projects of regional development, in centres for technology transfer and similar activities. A major consequence of this practical orientation, moreover, lies in specific research activities which are increasingly undertaken by members of the NUS. While in earlier times the teaching staff in NUS institutions were inclined to follow the academic paradigm of the university sector to increase the respectability of the NUS, this has in recent years given way to a more confident acceptance of the specific research opportunities in this sector. Positive reactions from industries and the public have reinforced this trend.

Generally, the functional contributions of NUS institutions in Member countries have justified many of the policies which initiated the emergence of alternative sectors in higher education. It is not surprising that the parameters and criteria in the original political expectations still represent the main guidelines for further planning and evaluation in this sector of higher education. But the emphasis of policy varies with the country, and reveals a diversity of aims. Manpower considerations continue to be of primary importance for policy planning with regard to the NUS in most countries. Considerations of social demand and increased educational opportunities for larger segments of the population are also still regarded as essential criteria in most systems. Japan, for instance, seems particularly inclined to expand educational opportunities: "It seems most probable that the NUS will act as the leader in bringing about a universal post-secondary education." (OECD country study, Japan). More generally, most national systems recognise that in times of rapid technological change, the economy needs not just qualified personnel, but also technically utilisable knowledge.

Vocationalism and the Identity of the NUS

The NUS concept of an occupationally- and practically-oriented system has turned out to be useful. The occupational skills and abilities which are thus transmitted are increasingly sought after by industry and other segments of the labour market. In several national systems, an additional reason for the broad acceptance of training programmes from the NUS is the shorter periods of time which it takes to get a degree or other qualification.

The economic and societal contribution of NUS institutions has led governments and the university sector to review the roles of conventional universities, with the possible aim of bringing about changes in this sector as well. There are indications that the universities themselves are beginning to realise the significance of the adaptive capacities of the NUS in times of fundamental transformations in economy and society. And since NUS institutions often manage to provide their training and research services at a lower cost (if the fact is disregarded that at the same time they also deliver only a limited range of products), they represent a powerful structural alternative and challenge to the universities. The universities are themselves beginning to acquire some of these characteristics of the NUS, thus "blurring the boundaries" between the sectors in some countries.

Status Differences

If this conveys a picture of success, there are nevertheless many issues and problems that the NUS faces in Member countries. They centre on its status and identity as a separate sector. In many OECD countries, the NUS is still regarded as of lower status than the university sector, and this is reflected in different organisational and financial structures for the two sectors. Often there are also differences in the kinds of qualifications offered by NUS institutions. A dominant trend seems to be that of granting to NUS institutions greater freedom in curricular as well as managerial matters. But differences still remain in the extent of government control or the institutions' power to spend, as well as in the salaries and conditions of work of their teachers.

These differentials of status have more than managerial or financial implications. In many countries, entrance to the universities is still the prime ambition of intending students; the NUS is often second best. The more rapid growth of this sector in some countries may, in

part, be due to the fact that universities had not expanded enough. This raises the question of how valid claims really are that the NUS has increased educational opportunities for formerly disadvantaged social strata. On the one hand, there obviously now exist expanded opportunities to study for advanced qualifications. On the other hand, most of the qualifications gained in many NUS institutions are at a lower level than university degrees (in terms of prestige as well as market value). Policy-makers in Member countries, therefore, have to be careful to avoid a situation in which differentiated systems of higher education possibly contribute, although on a higher level, to the perpetuation of class differentials in society.

The higher status of the university sector is also an issue as it develops functions more associated with the NUS, such as more open access, unconventional degrees or practically-oriented "entrepreneurial" activities. In an environment in which institutions or sectors are competing for public or private funds, the higher-status institutions are at an advantage. The success of the NUS could in a way generate competitors, which in the end may turn out to be even more effective.

The success of NUS institutions in responding to the changing demands of Member countries' economies and social objectives is generally recognised, as is the greater control of NUS institutions by governments. But this responsiveness is, itself, not without its problems. The danger is that institutions will become narrowly vocational, or forced to respond to perceived needs that do not actually exist or are ephemeral. One of the traditional functions of higher education has been embodied in the concept of "liberal" education. The NUS in particular faces the problem of reconciling the immediate demands of the labour market with these broader concerns for human development.

This issue is perhaps most acute in relation to the emergence of the "third sector". This can be seen as a response to the failure by the other two sectors to meet, to some extent or other, immediate labour market needs, reflecting perhaps some ossification of the NUS as it has established itself as a sector with recognisable characteristics and traditions. The development of the third sector will depend to a large extent on the political preferences of governments; as a sector it is most evident in those countries with a "free market" philosophy, and even then mainly in disciplines requiring low capital expenditure. In those countries wishing to maintain the tradition of public higher education, it is unlikely that this sector will be more than an adjunct in particular subject areas.

Part Two

SUMMARY, CONCLUSIONS AND POLICY IMPLICATIONS

Report by the Secretariat

INTRODUCTION

This part contains a summary of the main conclusions of the analytical report, highlights the key issues currently being discussed in relation to the diversification of post-secondary/higher education and attempts to draw the implications for future policies in this area.

The report focuses on the key factors which have influenced the development of the non-university sector (NUS) in Member countries and on structural changes in the pattern of higher education arising from this development. In charting the growth of the non-university sector, it examines the extent to which it has been used by Member countries as a vehicle for the expansion of higher education in preference to the university sector. It discusses how the decline of emphasis on purely academic values and a growing concern for "employment values" in higher education have influenced recent developments, and how far the different goals and missions of non-university institutions are reflected in curriculum content, patterns of attendance and characteristics of the student population. It examines the ways in which non-university institutions are organised, financed and controlled, and the effect that the differences between them and the universities have on their operation. It considers the employment situation of graduates from the non-university sector and the sector's overall performance in a socio-economic perspective.

In the 1960s and 1970s the alternative institutions were generally established by governments to cope with rising student numbers and to offer a more practical and vocationally-oriented curriculum than universities. Their creation often reflected governmental concern that the university system was not sufficiently responsive to industrial and economic needs. Another of their distinctive functions was to offer educational opportunities to formerly under-represented groups. Moreover, they were expected, in most countries, to be less expensive than traditional universities, facilitating expansion of higher education at acceptable cost.

1. MAIN CHANGES IN THE DEVELOPMENT OF THE NUS SINCE THE EARLY 1970s

In the early 1970s OECD identified three models of what were then called "short-cycle" and/or non-university institutions. The first was the "multipurpose" model which

corresponded to the characteristics of most community colleges of North America, offering vocational courses and qualifications as well as the first two years of the 4-year university first degree (undergraduate) programmes and, increasingly, a wide range of continuing education schemes. The second was the "specialised" model which referred to those institutions that offered shorter, mostly vocationally-oriented courses in a limited number of areas, leading to below first-degree-level qualifications. A large number of post-secondary institutions in Continental Europe were close to this model. The third was the "binary" model, typically represented by the British polytechnics, offering courses and qualifications intended to be distinct from, but of a comparable level to, those in universities. These three models implied certain status assumptions of the time, in particular that universities were at the top of the institutional hierarchy. The OECD (1973) study spoke in this context of a gap between "noble" and "less noble" institutions. Although the latter were fully integrated into the higher education system, they clearly suffered from lack of status and prestige. Consequently, the common strategy which many adopted was to orient most of their activities in ways that brought them closer to the university image. Recruitment and promotion procedures, particularly in the rapidly growing public sector, implying a relatively low recognition of NUS degrees, represented a strong incentive for institutions to develop this "academic drift", which, in turn, led to a dangerous uniformisation of the system.

The present report reveals that, in the ten Member countries studied, the nature, position and standing of non-university institutions have changed appreciably over the past fifteen years. The NUS has now acquired considerable recognition and legitimacy within national systems of higher education. The three models identified in the early 1970s remain a useful starting point for highlighting the major structural differences which still exist among non-university institutions. However, they are no longer adequate to describe the situation and the main issues confronting the NUS in the late 1980s. community colleges in the United States — a typical example of the multipurpose model — were criticised in the past for their excessive transfer orientation, whereas their present role as part of a 2 plus 2 pattern (i.e. as a first phase in higher education) is much more limited. Many of their graduates do not meet the requirements of four-year colleges and universities, and students are using these colleges increasingly as a route for vocational qualifications. In a way, the North American higher education systems now face, more than in the past, problems similar to those already identified in the other models, namely a tendency towards segmentation and a too rigid differentiation within the system [see OECD (1990*a*), *Reviews of National Policies for Education: Higher Education in California*]. Contrary to what was expected in the early 1970s, the "specialised" type of institutions in Continental European countries did not move in the direction of the multipurpose model combining preparation for further studies with vocational education and with strong emphasis on continuing education. Instead, expansion was accompanied by greater institutional specialisation. Even in cases where small technical colleges merged into larger units, the latter often continued to focus primarily, if not exclusively, on initial vocationally-oriented programmes geared to immediate employment. Moreover, expansion and diversification led to the emergence of a stronger element of differentiation and hierarchy within the non-university sector itself. Thus, for example, many of the top non-university institutions (i.e. *Fachhochschulen* in Germany, Regional Colleges in Norway, *Instituts universitaires de technologie*, IUTs, in France) have moved closer to the "binary" model.

A number of factors have contributed to these developments. Economic and technological changes of the 1970s and 1980s have generated in most countries a new set of

priorities, which in respect to higher education can be summarised as a relative decline in the attraction and prestige of the academic paradigms represented by the conventional universities and the growing emphasis on "employment relevance". Higher education is increasingly required to contribute to economic development, and this is often interpreted to imply an increase in the number of graduates in vocationally-oriented fields and knowledge, skills and other qualifications useful in available jobs. Changes in student choices and preferences, as well as in the reward systems, both for institutions and for their graduates, have been contributing factors. The funding and control of higher education have, as a consequence, been increasingly directed towards programmes meeting these criteria. Such programmes have not only become more closely integrated into higher education over the past 15 years, but have done so by consolidating a position based, to greater or lesser extent, on values and functions distinct from those of the traditional universities.

Developments within the university sector in response to the same pressures are having a considerable impact on the position of the other higher education institutions. Of key importance in this context are a number of reforms in universities leading them to acquire many characteristics originally associated with the non-university sector. These developments are not present everywhere; but in some countries, and especially in some disciplines, university programmes are developing a greater vocational orientation, accompanied by a growing emphasis on applied research, and on strengthening the relationship with industry. There is also a growing sense of regional or community responsibility. In several countries universities are becoming more responsive to students with non-traditional qualifications, recruiting greater numbers of adults, expanding their part-time and continuing education provision. Although the idea of developing short-cycle vocational programmes within "comprehensive universities" did not develop as expected in the early 1970s, such universities (Sweden, France and more lately Spain and Italy) have indeed developed programmes of shorter duration.

At the same time, the university sector has become increasingly differentiated. In some countries, the universal commitment to basic research is under scrutiny, in others research activities are being concentrated in some centres only. The situation is encapsulated in the question raised in another OECD report (1987*a*, p.100): "What missions for which universities?". In other words, greater differentiation among universities as well as among the other higher education institutions tends to blur some of the distinctions between the two sectors and may often lead to the development of other types of differentiation and of other "pecking orders".

There is a further development, largely unanticipated in the policy debates of the 1960s and 1970s, which is likely to influence increasingly the status and functions of non-university institutions: the emergence of the so-called "third sector". This sector, as yet ill-defined, consists of a wide range of programmes, predominantly privately organised and financed either by profit-making educational institutions charging substantial fees (e.g. proprietary schools in the United States) or by firms. Most often they are of short duration and narrowly vocational. Joint public/private schemes are also developing rapidly. In some countries this trend is being encouraged and/or supported by public authorities under the umbrella of different ministries. Whilst many programmes were originally set up for retraining or continuing education purposes, there is evidence that they are now beginning to cater for substantial numbers of qualified secondary school-leavers as well as for those without formal qualifications to enter higher education.

Despite its growth and importance for the overall development of formal post-school education, in most countries this market-oriented sector is not widely visible to the public and often not sufficiently recognised by policy-makers or educational planners. Information about the size, nature and functions of this sector is limited, but it is clear that this is a policy area calling for close attention and investigation.

Against the background of these contextual factors, the following section attempts to summarise the main features of the development of non-university institutions. While the summary is primarily based on the preceding analysis in Part One its scope has been broadened to bring in questions and considerations that go beyond the evidence provided by the sample of countries included in the survey.

2. TRENDS AND ISSUES IN THE LATE 1980s

Quantitative Growth

One of the aims underlying the development of the NUS in the 1960s and 1970s was to contribute to the rapid expansion of higher education foreseen at the time. The evidence from this study confirms that this expectation has been met: since the 1970s, in the majority of countries reviewed, the NUS has been indeed a major growth sector. In some of them (e.g. New Zealand, Norway, Germany, France), student numbers increased three to four times or even faster; in others, particularly Canada, Japan, and the United States, where very rapid expansion had taken place during the 1960s, growth rates during this period were lower. Most often, expansion of the NUS exceeded, albeit to a varying extent, that of universities. However, most countries have witnessed a substantial slowdown of student growth in both the NUS and the universities since the mid-1970s.

The information drawn from the OECD Data Bank (Tables 1 to 3 in Part One) shows that the countries covered by the survey have had above-average NUS growth rates and that in a number of those which were not included, expansion of the NUS has been substantially slower, some even witnessing a decline in total enrolments during the late 1970s. Within the broader coverage of countries, there is also less clear evidence of NUS growth outstripping that of universities. Overall, it is observed that differences among countries concerning the growth rates of their respective NUS are not specific to the sector itself, but generally apply also to the universities, and thus to the system of higher education as a whole. In fact, over the past 15 years in the majority of countries, the two sectors had a similar pattern of growth: both universities and the NUS expanded rapidly in the 1970s — quite often a continuation of the trend in the 1960s — , then grew more slowly or remained stagnant, if not already declining in the late 1970s, with a general upsurge, but more varying patterns in the 1980s. Thus, while in general the NUS has certainly contributed to expansion, in many cases it has not been the engine of growth that might have been expected.

It is important to note, however, that figures on enrolments do not fully reflect the contribution of the NUS since they do not take into account the longer duration of university studies. Comparative data on new entrants, a more precise indicator of access opportunities, in general show a larger share of higher education students in the NUS. The figures on new entrants also reveal wide disparities among countries in the relative weight of the NUS within

total higher education; in 1986 they vary from 3.6 per cent in Italy and 18.8 per cent in Austria to around 50 per cent of total new entrants in the United Kingdom and the Netherlands, and 60 per cent in Switzerland (1984). The majority of countries included in the survey are at the top end of the spectrum with a comparatively large NUS.

Although a number of countries witnessed some shift over time in the balance between university and non-university enrolments, most often, though not always, in favour of the latter, only in a few of them, e.g. Belgium, New Zealand, Norway, Australia, has there been a significant "positive" change over the past 15 years in the position of the NUS within the total higher education system. Obviously, such changes are more striking in countries which had a small NU sector by the end of the 1960s than in those where the NUS already recruited a large proportion of the total student body in higher education. In the early 1980s, among the 21 countries for which information is available, 11 had still more than two-thirds of their higher education enrolments in universities or equivalent institutions.

There are several reasons which could explain this relatively slower growth of the NUS. In some cases, it may be simply the result of a change in status or label, that is, of the upgrading of institutions to university level. In some others, particularly in Continental Europe, legal constraints may have limited the growth of the NUS: while qualified school-leavers have a formal right to a place in universities, NUS institutions are generally selective and applicants must compete for entry when demand exceeds the intake capacity, as seems to be increasingly the case. The relatively lower costs per student of certain academic disciplines offered by universities, compared to the more vocationally-oriented programmes in the NUS, may have also contributed to the limited expansion of the NUS.

The slowdown in enrolment growth of universities and other higher education institutions in the late 1970s and early 1980s, together with the rapid development in the same period of the "third sector", can be viewed as a first indication that a particular type of demand for post-secondary education is not being met by the formal higher education system. This raises a number of questions which are taken up in the following sections.

The Student Body

In many countries, the NUS is intended to serve a "social" function, by offering access to higher education to non-traditional students or under-represented groups. In this respect, the report shows that the growth of the NUS has indeed contributed to changes in the composition of the student body. The extent of this social function varies according to countries. In some, like Canada and the United States, the NUS has no doubt contributed to a wider access to higher education of hitherto deprived groups — ethnic minorities, women, adults, students from low-income families (in the United States, community colleges have been called "democracy's colleges"). In others, access of these groups has often been enhanced, but their share remains less marked and the proportion of students from the lower socio-economic groups, albeit higher than in universities, is not dramatically different. As NUS institutions become increasingly integrated into the higher education community, so the tendency may grow, in some cases, towards an increasing uniformity in the recruitment patterns of the two sectors.

In most countries the NUS witnessed a strong increase in the participation of women, but so have the universities over the past two decades. Consequently, the pattern here follows that of higher education in general. A notable exception is Japan where women concentrate

heavily in junior colleges (more than 90 per cent of the student body) while their share in universities is still relatively low (24 per cent). Comparisons among countries and differences between sectors should be interpreted with caution since the participation of women tends to be linked more to area of study than to type of institution. Within the NUS, female participation rates are high where general education and teacher training is dominant, relatively low where the emphasis is on scientific and technical subjects.

The NUS's contribution to access of "mature" or adult students, and opportunities for part-time study, depend considerably on the nature of the system. In Continental Europe, differences between the two sectors are often not marked since in certain areas of study in the universities, particularly in the "soft" disciplines, opportunities for adults and part-time study have also increased. In Canada, the United States and the United Kingdom, it is the NUS that offers the major route for part-time study, for mature students and for those without conventional entry qualifications. In the majority of countries, however, separate provisions have been set up to serve the needs of adults, either through the creation of open or distance universities (United Kingdom, Germany, Japan, the Netherlands, Spain) or through the development of special continuing education units within the conventional institutions in both sectors. Almost everywhere, the NUS is assigned an important regional function offering higher education opportunities locally and helping to retain educated manpower in particular areas. This role is particularly emphasized by Scandinavian countries.

As it acquires a more recognised status, the NUS faces a dilemma in the recruitment of its students. Highly-qualified applicants seek programmes offering them the best rewards in terms of employment or status, and so will tend to displace students without conventional entry qualifications, generally those from disadvantaged educational and social groups for whom the NUS institutions often represented the main, if not the unique, opportunity for further studies. It is interesting to note that in some countries, notably in France, as competititon for some of the NUS programmes increases, many of the unsuccessful applicants are often forced to enrol in less selective university courses, often with poorer employment prospects. The lack of meaningful choices for this displaced group may at least partly account for the rapid and successful development of the "third sector".

On the other hand, if the NUS becomes the main route for students from disadvantaged backgrounds, the sector and its students might be regarded as a second best, thus creating a kind of "academic and social *apartheid*". Whereas in the past, attempts to cope with this question mainly involved structural reforms, it is suggested that greater attention should now be paid to the organisation and structure of studies and to the links and co-ordination between the different programmes in order to deal with this complex and pervasive social issue.

Content and Structure of Studies

One of the main reasons for the development of the NUS has been the concern for providing more vocationally-oriented programmes at the post-secondary level. In this respect NUS institutions have in general maintained, and often accentuated, their original functions. To some extent also, it is precisely in this area that the academic drift stopped. Instead of trying to provide more and more theoretical programmes or programmes in the traditional university fields of humanities, natural and social sciences, they stressed their vocational orientation, both in established areas such as mechanical and chemical engineering, and in new ones, such as information technology, communication, marketing, etc.

However, important dilemmas are still confronting NUS institutions in this area. Many of them arise from the conflict between, on the one hand, the desires of governments and/or employers for a higher education sector that continues to be responsive to their perceptions of economic and/or social relevance and, on the other, the longer-term view of higher education as preparation and training for a variety of roles which the individual will encounter during his/her life, which translates into institutional autonomy. The extent to which these dilemmas arise varies again according to countries and also fields of study.

Overall, it seems that with respect to curricular development, the trend in the NUS during the past decade has been towards a growing dominance of practical and vocational education which, in some cases, might become indeed detrimental to the broader aims of higher education. This is true even of countries like the United States with a strong liberal arts tradition, where community colleges have witnessed the same development. In general, it is claimed that the NUS is now searching for a new concept of vocational education, effective in producing graduates qualified for immediate entry into the workforce, but taking into account a longer-term employment and educational perspective, and ensuring that its graduates are capable and motivated to acquire new skills and qualifications throughout their lifetime.

Thus, both from a social equity and from an employment perspective, it seems essential that the structure and organisation of studies enable students and graduates to move across sectors and institutions, allow for alternation between work and study, as well as later re-entry into higher education on the basis of a variety of learning and work experiences. This is particularly difficult, but all the more necessary to achieve in systems with a strong institutional differentiation. If some forms of hierarchy and stratification among institutions are unavoidable, it is essential that individuals be given opportunities for interinstitutional mobility and promotion. Until now developments in this direction have not matched the plans and aspirations of policy-makers in the 1970s. The picture here varies according to national circumstances, but generally, and in most European countries, there is little transfer from the NUS to universities and/or such transfers may involve considerable time penalty or financial cost. Such transfers are more generalised in the United States but even there, in some states at least, there is evidence of its substantial decline (see OECD, 1990*a*). This phenomenon is at least partly related to the trend towards "vocationalisation", also reflected in student preferences or strategies. In many countries, including the United States, it is confirmed in a way by an increase in the so-called "reverse transfer", namely a growing number of university students and graduates, mainly from academic disciplines, and seeking a double qualification, who apply for professionally-oriented courses offered by the NUS.

Perhaps some of the major initiatives now taken to stimulate student and staff mobility across frontiers in the context of the broader trend towards the *internationalisation* of higher education, will also contribute to attenuate these rigidities and strengthen the links between institutions, as well as between programmes of study, within the countries themselves.

Despite these problems, the NUS can claim to have pioneered innovative teaching methods, such as modular courses and independent study, as well as experiments in new course contents and design. In some countries, the NUS offers programmes in subjects not available in universities, and in most it has expanded in subjects in demand by employers or by governments, including economics, business studies and a variety of applied scientific and technological fields. One of the reasons for this greater flexibility in curricular and pedagogical reforms is that NUS institutions are less subject to academic and disciplinary pressures normal within universities. This has also enabled them to develop more

interdisciplinary and problem-oriented courses in response to both social and economic requirements.

In respect to the *duration of studies*, a certain academic drift and blurring of boundaries between the two sectors can be observed. In the past the NUS was closely associated with the notion of short-cycle higher education; in fact, in most countries this was at the very origin of its inception and development. By now, primarily in European countries, the distinction between long-cycle (university) and short-cycle (non-university) programmes, although applicable, is no longer so clear. On the one hand, quite a number of institutions at the top end of the NUS hierarchy have extended, or are in the process of doing so, the length of their programmes. This trend can be expected to continue since it reflects the aim of the respective institutions to strengthen their competitive position *vis-à-vis* universities in their own countries, as well as that of achieving greater international recognition. This is particularly the case within the EEC framework, where the equivalence of qualifications in certain fields is recognised largely on the basis of the length of higher education programmes. On the other hand, the opposite trend is observed in many universities, where concern over dropouts and the ageing of the student population are leading to a shortening of the duration of first-degree courses. In certain cases reforms also involve a subdivision into cycles or stages, often granting some form of intermediary qualification.

The Teaching Staff

Among the more manifest indicators of the differences in the respective status and functions of the NUS and of the university sector are those concerning the type of teaching staff employed, their salaries and conditions of work. Thus, in a majority of countries, there tends to be a greater proportion of part-time teachers in the NUS (reaching as high as 50 per cent in the American community colleges). NUS teachers often have professional or industrial experience, and are usually less academically qualified than those in universities. Teaching loads in the NUS are generally higher, and teachers spend less time on research than their university counterparts. Finally, NUS teachers have in general lower salaries, and provisions for tenure are less common than in universities.

However, a certain improvement of the status of NUS teachers and thereby a rapprochement with university conditions is occurring, at least in some countries (e.g. in Norway, where in fact differences were always rather small, as well as in Germany). Many of these characteristics and conditions reflect the different aims and aspirations of the NUS and correspond in a way to its ethos; its applied orientation is expected to be strengthened by the employment of practitioners. However, the poorer salaries and conditions of work of NUS staff can inhibit the development of a tradition of quality in NUS higher education comparable to, but different from, that in universities. Governments need to address the question of how far these disparities should be maintained.

Governance and Organisation

Many of the dilemmas faced by NUS institutions are closely related to the arrangements concerning their governance. With the notable exception of Japan, and to a lesser extent the United States, most are public organisations subject to governmental controls with regard to their internal management as well as their curriculum. The external control over the

curriculum is in most cases one of the distinctive features of the NUS; it is exercised either by central validating and accrediting bodies, or directly by government, whether at national or regional level, often in close co-operation with the social partners concerned. In many cases organisational arrangements and teaching methods are more similar to those in secondary schools than in universities. In the more independent NUS institutions, various forms of the traditional pattern of university governance, with academic boards or senates, are found, but in several countries a tension between this collegiate model of governance and a more executive style is evident and needs to be resolved.

There is evidence in the case studies that several countries are developing new policies to address the problems of institutional autonomy. In some of them, NUS institutions are being given new independent status, and in several others curricular autonomy is also being increased in recognition of their growing maturity. Thus, also in this area the situation of NUS institutions is becoming more similar to that of universities. The issue of autonomy of NUS institutions is likely to become more acute in the future and governments will need to face the question of how far and how rapidly to allow this new freedom to develop.

Finance and Control

Most countries assume that the control and financing of the NUS should be different from that of the universities, though there are signs of convergence of these arrangements for the two sectors.

In most countries, in contrast with the university sector, there has been from the outset some element of plural funding of non-university institutions, with wide variations in the share of responsibilities between the provinces (states) or regions and the central government. In the majority of cases tuition fees are charged, these ranging from a few per cent to around one-third of the total income. In general, there is some kind of support for students, usually in the form of means-tested grants, or through loans with an element of public subsidy. Japan offers a contrast, having no grant system and with a large segment of its higher education supported by private funds, with students paying substantial fees. Member countries need to address the question as to what extent it is appropriate for NUS institutions to have different funding mechanisms from the universities; they also need to deal with the question of the distribution of the costs of NUS education between central and local governments, students, parents and other agencies such as industry or charities.

In some countries, differences between the sectors are, as mentioned above, being reduced. The trend is towards less direct administrative and bureaucratic intervention and control, but often this is accompanied by an increase in central monitoring and direction, particularly by means of funding procedures (see OECD, 1990*b*). NUS institutions may now be freer to manage their internal affairs, but the public funds are allocated on a formula basis or linked to specific objectives (e.g. to particular subjects or areas of work, to certain types of research), a phenomenon which the universities are to some extent also experiencing. Here, too, governments need to decide how far it is appropriate for increasingly mature institutions to be controlled in this way.

Several countries are encouraging their NUS institutions to become more "entrepreneurial" and to strengthen their links with the surrounding community, partly as means to increase and diversify their sources of funding. This "market-oriented" policy applies to both sectors. In the NUS as in universities, it has resulted in the growth of

"full-cost" courses for employers, the development of contract research and in consultancy services for industry. Greater plurality in sources of funding can indeed strengthen the autonomy of the institutions. However, since these supplementary resources are usually linked to specific activities, the trend may entail the risk of an excessive responsiveness to particular interests of outside groups, mainly those with the highest "purchasing power". How far and under what conditions this trend should be allowed to develop is a question that needs to be addressed for NUS institutions as well as for universities.

With regard to *costs*, it should be recalled that in many countries one of the expectations underlying the development of the NUS was to facilitate expansion of higher education at lower cost than through the universities. In several of the countries covered in Part One, expenditure per student in the NUS has indeed been lower, sometimes half that in universities, which at least partly reflects the different functions of the two sectors, particularly the absence of, or fewer, research activities in the NUS. But there are also claims that many NUS institutions are more cost-efficient than universities. However, it cannot be said that, overall, NUS provision has become a "cheap form of higher education". In some cases, it is even much more costly in terms of per student expenditure (e.g. French *IUTs* compared to many university programmes). Again, in this respect the university/non-university distinction is often less significant than differences between fields of study: more is spent on students in engineering and technical education or in medical or paramedical studies than in the "soft" areas — whether in the university or in the non-university sector. There seem to be, however, some legitimate claims on the part of NUS representatives of unequal treatment in the case of comparable programmes and concern about its effects on quality of provision in this sector.

Employment of Graduates

The success of the NUS in responding to the economic needs of Member countries can be assessed, to some extent at least, on the basis of the employment pattern of NUS graduates. In almost all countries covered by the survey, these graduates fare well in the labour market and this has probably contributed, more than anything else, to the increased recognition of the NUS. It is claimed — and there is, indeed, supporting evidence — that in many areas the NUS has been more flexible in responding to the changing demands of the market than the universities. In this connection, however, several qualifications need to be mentioned. The situation of graduates of specific programmes, in particular those with a clearly-defined vocational orientation, can change quite drastically over a short time following fluctuations in employment demand. Employment prospects of graduates also vary significantly according to area of study, the employment sector where they concentrate and the influence exercised by professional groups. In subject areas where employment outlets are mainly in the public sector, such as the humanities and certain social sciences, NUS graduates suffer from the screening function of the education system in that recruitment is largely based on the status of the institutions and on formal qualifications, thus placing university graduates at an advantage. The effects of screening also apply to areas such as medical and health studies, where access to employment and promotion is also strictly regulated by professional associations. On the contrary, NUS graduates in many technical fields where the majority enter private, often small and medium-sized enterprises, tend to be in a stronger competitive position *vis-à-vis* their university counterparts. There are also difficulties faced by NUS institutions in developing programmes for the service sector corresponding to new occupational profiles which require a broader type of education, and where, as a consequence, university graduates are favoured.

Thus, in spite of the progress achieved, there is evidence of a persisting university/non-university hierarchy or stratification, particularly strong in relation to the more academic-oriented or general programmes, for which there might be great demand in the future, even though at present they are not very developed within the NUS.

3. CONCLUSIONS AND POLICY QUESTIONS FOR THE FUTURE

One clear conclusion which can be drawn from the preceding analysis is that, overall, NUS institutions have, over the last fifteen years, succeeded in consolidating their position within national systems of higher education. Thus, in the vast majority of Member countries, with the notable exception of Austria and Italy, there now exists a well-established non-university sector with a strong basis of public support, and recognition of its role and functions.

A major reason for this development, in many cases actively supported by public policies, is that NUS institutions were able to build up for themselves a distinctive profile with several common components, though with a different balance between them. This distinctiveness was established on the basis of the employment relevance of their courses, representing a type of higher-level vocational education which responded to the changing needs of the economy. The success of many NUS graduates in this area, particularly when compared to their university counterparts, also shows that NUS was often able to develop a different concept of quality in higher education from that provided by traditional universities. Moreover, in many cases the NUS did contribute significantly to widening access and to the democratisation of the overall higher education system. Not all of the NUS institutions assigned the same priority to this goal — this depended largely on the degree of selectivity of universities in each country. Nor did they all focus on the same target groups: most of them aimed at enhancing the participation of young people with lower-entry or non-traditional qualifications, and rather few of them took account of the needs of adults or people in employment. Others, again, emphasized their role in regional development.

A first question which arises is whether these institutions will be able to preserve their present identity, or find a specific niche, within future post-secondary systems, in the face of what is happening around them. After having coped more or less successfully with their own problems of "academic drift", they are now confronted with a different set of pressures which affect all institutions and programmes at the post-secondary level, and which can be characterised as the "*employment drift*". Indeed, there is growing evidence that in some ways, both the universities and the third sector, each of them representing specific interests and posing quite different challenges, are treading the ground on which, during the past 15 years, the non-university institutions were able to develop their specificity.

With respect to the *universities*, reference has been made to their increased vocationalisation and their recent tendency to assume a growing number of functions which were originally perceived as specific, sometimes exclusive, to the NUS, thus leading to a blurring of the boundaries between the two sectors. This shift of universities towards a NUS approach has itself contributed to enhancing the status of the NUS itself. However, it can be argued that, if this development accelerates (which is very likely in view of demographic trends, financial policies and the stronger influence of market forces), it could easily lead to

more overlaps as well as to greater competition between the different sectors and institutions, particularly in the case of institutions closer to the binary model.

How will the NUS institutions fare in this stronger competitive situation? While their relative competitive position has certainly been strengthened, it is clear that in many respects the universities remain at an advantage, above all from an academic point of view, but also with regard to certain employment sectors. In most countries, universities retain a quasi monopoly in basic research and training for high-level professions such as medicine, veterinary science, or law. Their staff enjoy special working conditions, particularly in terms of academic freedom, tenure, salaries, etc. University graduates are, and most likely will continue to be, favoured by professional groups and employers where credentialist practices prevail, not least in the public service. Under these circumstances, NUS institutions will have to rely for their strength increasingly on their greater flexibility and their capacity to develop and maintain a different type of quality, while responding to both the accelerated changes in student demand and employment requirements. In this connexion, it should be also recalled that a major factor for the success of NUS institutions, particularly in the Anglo-Saxon and Scandinavian countries, has been their ability to provide attractive alternative routes to initial education for adults. Overall, less attention has been paid to continuing education, an area where there is ample scope and growing need for new initiatives.

The extent to which competition among higher education institutions will develop in the coming years will depend very much on national circumstances and on political decisions within each country. The essential issue is to ensure that the higher education system as a whole fulfils the multiple functions which modern society requires: providing general *and* vocational programmes, initial *and* continuing education, short *and* long courses. It is less important whether these different provisions are offered in the university or the non-university sector, so long as they are catered for, in whatever setting, with a minimum of administrative or organisational barriers. If this is the case, the more fundamental question which arises is whether the present distinction between the two sectors should be maintained and, if so, under what conditions and on the basis of which criteria should it operate? It can indeed be argued that this distinction is no longer appropriate in the light of changing social and economic requirements; nor is it meaningful from a functional point of view. But what alternative forms of differentiation are feasible, bearing in mind the difficulties which have surrounded the building up of "comprehensive" universities?

Equally important issues arise from the development of the so-called *third sector*. Though not yet fully documented, it is clear that this market-driven sector is becoming a prominent feature of higher education provision in many Member countries. It is striking, in the first place, that the rapid expansion of third-sector programmes and institutions took place precisely at the time when universities and the NUS witnessed a slowdown in growth. In some way, this can be seen as a sign that, in recent years, patterns of development of the formal system have left a significant vacuum of provision at the post-secondary or post-school level. Secondly, the fact that the majority of third-sector courses are either privately sponsored and/or organised (or, if publicly financed, they usually involve far less subsidy than the formal sector) shows that, for some types of higher education, governments are letting market forces cope with further expansion. Thirdly, the nature of the programmes offered by the third sector, predominantly short and strongly vocationally-oriented, including a strong component of continuing education, reveals the areas where governments are currently setting limits to their direct role in coping with individual and socio-economic demand.

Here, again, current policy debates and actual developments seem to indicate that boundaries are being blurred. In many countries, governments are indeed encouraging, if not compelling, both universities and NUS institutions to develop a more market-oriented approach. On the other hand, within the third sector, younger and adult students, as well as private providers of education and training, are seeking formal public recognition of courses offered and skills acquired. The development of contract education, i.e. of special courses offered in universities and alternative institutions at the request of industry, provides another example of the blurring of boundaries between the formal system and the third sector and, in fact, an indication of how the distinction between initial and continuing education is being eroded.

Sooner or later, governments will find it necessary to take more explicit cognisance of developments in the third sector, if only to ensure appropriate quality control. Sooner rather than later, they will also need to develop a clearer vision about the future size and pattern of the total post-secondary provision, and how this will be met — in terms of finance, sectors and institutions. The twofold message that comes through from the analysis of trends in this report is that:

a) Traditional sector-based planning of higher education is no longer adequate and has to give way to approaches based on programmes and courses often cutting across sectors or institutions;

b) Market-force principles, increasingly applied by governments themselves in their dealings with publicly-supported institutions, will remain a dominant feature of the supply of post-secondary education in the future.

Striking the right balance between the public/private mode of provision, between market-driven developments and regulatory practices ensuring quality, social justice and minimum co-ordination, will be a major challenge to those charged with the design and implementation of future policies for higher education.

ANNEX

The preparation of this publication has been facilitated by the availability of detailed statements by or on behalf of national authorities on alternatives to universities in higher education in the following countries:

Austria

Canada

France (information provided by the French authorities)

Western Germany (Federal Republic of Germany before the unification)

Japan

Netherlands

New Zealand

Norway

United Kingdom

United States

These statements can be obtained on request to the Directorate of Social Affairs, Manpower and Education, OECD, within the limit of existing stock.

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(91 90 05 1) ISBN 92-64-13530-8 - No. 45321 1991

ALTERNATIVES TO UNIVERSITIES

This report charts the recent development of the non-university sector of higher education in some OECD countries. It shows that during the 1980s this sector most often succeeded in enhancing its standing and recognition among students, employers, and the academic world alike. Its progress in the 1990s will depend on how it meets the challenge of greater competition from the universities on the one side, and the growing post-secondary "third" sector — market oriented and often private — on the other.

The countries surveyed are Austria, Canada, France, Germany, Japan, the Netherlands, New Zealand, Norway, the United Kingdom and the United States.

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